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Resilience and Depressive Symptoms in Midlife Women

Keverne L. Lehman
Grand Valley State University

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ABSTRACT

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By

Keverne L. Lehman

Rates of depression are increasing throughout the world, with women experiencing depression twice as often as men. This study utilized the Neuman Systems Model to examine the relationship in midlife women between depressive symptoms and resilience. Women ages 35-55, selected from four health care settings, completed written surveys on demographic information, life events, depression, and resilience. Results supported depressive symptoms as a health concern for mid-life women: 32% reporting current or previous treatment for depression, and 24% screening positive for depression. Resilience, measured by the Polk Resilience Patterns Scale, was related to education, perceived health, conflict in the living situation, and financial resources. It was inversely correlated with depressive symptoms. Depressive symptoms were related to perceived health, conflict in the living situation, financial resources, and sleep. Negative life events and the situational and philosophical resilience subscales contributed to 64% of the variance in the measure of depressive symptoms.

Dedication

This work is dedicated to all women who bring a caring approach to their corner of the world while working to maintain a balance and promote the growth of themselves, their families, and their communities. Special appreciation is given to the women who came before me: Matilda, Lucile, Evelyn, and Gladys; the women who walk beside me: Mary Jo, Sharon, and Beth; and the women who will follow me: Rebecca and Caroline.

Acknowledgments

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CHAPTER 1

INTRODUCTION

The health of midlife women is receiving increasing attention from researchers worldwide. One specific area of concern is the diagnosis and management of depression and depressive symptoms. Across countries, trends indicate that the rates for major depression have increased, with those born more recently over the last century at increased risk (Burvill, 1995; Cross National Collaborative Group, 1992). Within the United States, results from the National Comorbidity Study illustrate the prevalence of psychiatric disorders, with depression being one of the most common (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen, & Kendler, 1994). This research also supports the elevated rates of depression among women (21% versus 13% for men). Not only do women have higher rates of depression, but this gap widens in adulthood (Mirowsky, 1996; Wilhelm, Parker, & Hadzi-Pavlovic, 1997). Depression ranks as the fifth most frequent hospitalized condition for non-obstetric female patients, but is not even in the top ten for men (Agency for Healthcare Research and Quality, 2003). The annual costs of depression in the U.S. total over $40 billion annually (Greenberg, Stiglin, Finkelstein, & Berndt, 1993; Nease & Malouin, 2003). For women, this is manifested in direct care costs, mortality costs, workplace effects of absenteeism, and decreased productivity. Depression also places a burden on a woman's marital, parental, and social relationships (Maynard, 1993).

Many investigators are becoming interested in women's undiagnosed depression or in depressive symptoms (Betrus, Elmore, Woods, & Hamilton, 1995). Potential contributing factors to depression in midlife women have been identified. Among them are: menopausal symptoms, marital status, employment, housework, child care, economic strains, self-esteem, role stress, support systems, caregiving, overall health status, and a stressful life context (Beeber 1998a; Beeber & Caldwell, 1996; Maynard, 1993; Simon, 1995; Sheppard, 1997; Warren, 1997; Woods & Mitchell, 1997).

The United States Public Health Service (1997) has noted that many patients with depressive disorders are seen only by non-psychiatric providers. It is reasonable that recognition and treatment of mental disorders in primary care settings would be associated with improved patient outcomes. Kessler et al. (1994) reported that less than 40% of those with a lifetime psychiatric disorder had ever received professional treatment and less than 20% with a recent disorder had received treatment in the last twelve months. Campbell, Franks, Fiscella, McDaniel, Zwanziger, Mooney, and Sorbero (2000) demonstrated that physicians who recorded a greater number of mental health diagnoses also decreased overall patient expenditures.

The United States Preventive Services Task Force (2002) now recommends that primary care clinicians screen adults for depression, reversing a prior stance advising practitioners merely to remain alert for signs of depression in their patients. The current recommendation stems from evidence that five to nine percent of adult patients suffer from depression, that 50% of these cases go untreated, that there are many appropriate and effective screening tools available, and that depression is a treatable condition. These conclusions are supported by the work of Alvidrez and Azocar (1999) on

self-recognition of depression in women's clinic patients, in which they found that fewer than half of the depressed women identified their problem as depression.

Within the primary care setting, nurses are in a unique position to intervene before symptoms have met the criteria necessary for designation as a formal psychiatric disorder and to assist clients to maintain healthy lifestyles that prevent or lessen the incidence of depression (Hassell, 1996). "Depression as a health problem occurs in conjunction with a vast array of life transitions and health problems that bring clients to nurses for care" (Beeber, 1998b, p. 157). Beeber also comments that "depressive symptoms and phenomena affect well-being and quality of life" (p. 156) and are, as such, health problems within the scope of nursing practice. For women in midlife, depression "interferes with the productivity of women at the height of their work and family care" (Hauenstein, 1991, p. 609).

Many studies of women's depressive symptoms have arisen from the perspective of a person's deficiencies or weaknesses. It would be useful also to consider the counter-perspective of women's strengths or capabilities. Resilience is one such concept, having been described as "emotional stamina" or "courage and adaptability in the wake of life's misfortunes" (Wagnild & Young, 1990, p. 254). Others view resilience as "a process by which people bounce back from adversity and go on with their lives" (Dyer & McGuinness, 1996, p. 276), a tendency that "exists along a continuum...and varies with each developmental stage" (Hunter & Chandler, 1999, p. 246), or a "positive personality characteristic that enhances individual adaptation" (Wagnild & Young, 1993, p. 167).

According to McLeod (1997), depression "shadows one's strengths and limits the ability to create possibilities for health" (p. 394). These possibilities are not just for the

women themselves, but also for others of concern to them. The presence of depressive symptoms indicates a struggle against one's situation when one has not yet given up on changing it.

Purpose

Healthy People 2010 calls for research to explore the concept of resilience "to identify strengths that may promote health and healing" in order to "design effective programs that draw on such internal capacity" (Unites States Department of Health and Human Services, 2002, Opportunities section). The purpose of this study was to examine the relationship of resilience to depressive symptoms in midlife women. Using the framework of the Neuman Systems Model, the research question was: What is the relationship between resilience and depressive symptoms in midlife women experiencing stressful life events?

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

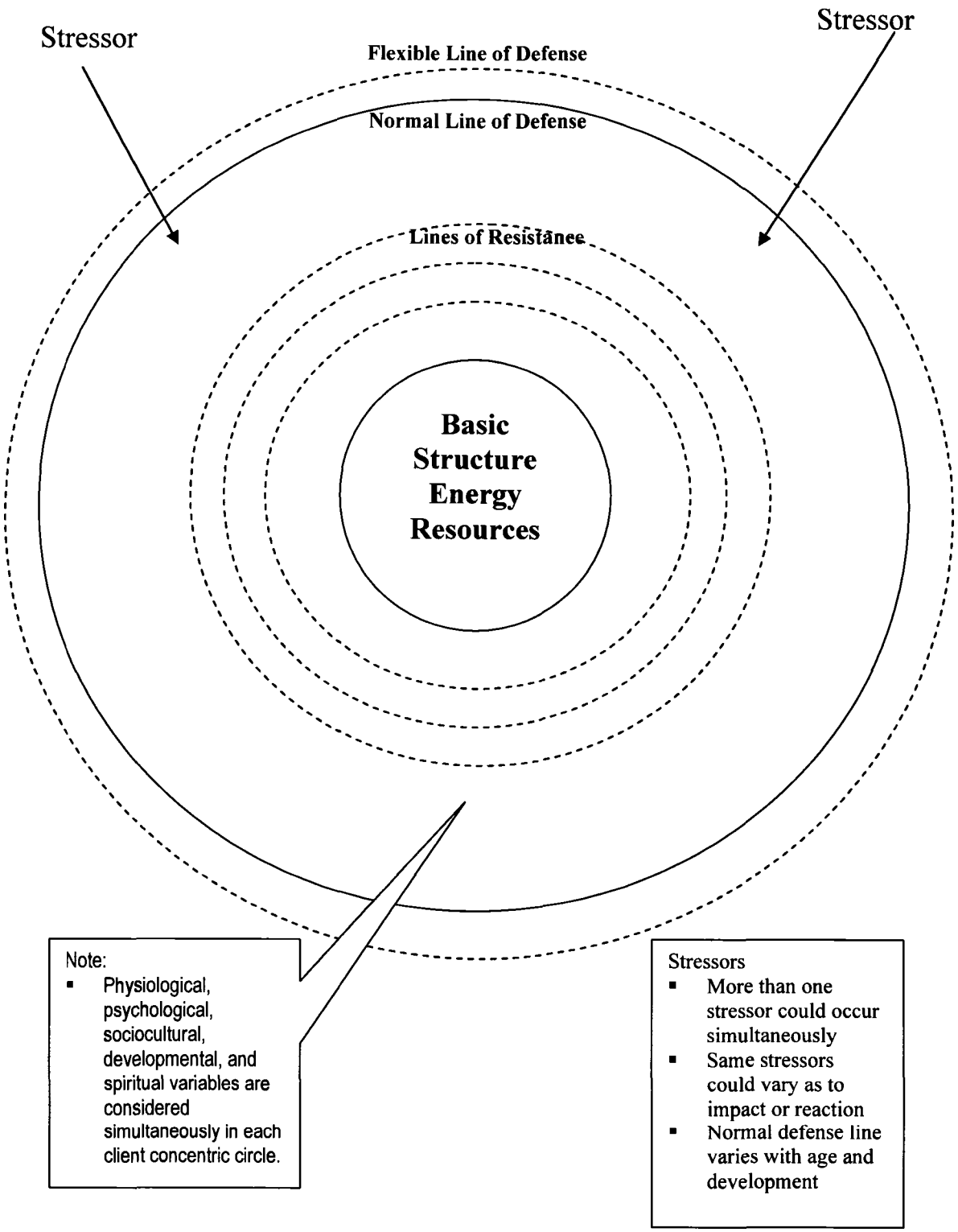
Neuman Systems Model

As defined by Hunter and Chandler (1999), resilience "is a complex construct that involves interaction between adversity and an individual's internal and external protective factors -- as well-developed competencies -- that allow one to overcome adversity" (p. 243). This dynamic relationship between individuals and their environment is a central tenet of Neuman's Systems Model (NSM) as seen in Figure 1. The NSM is utilized in this study to examine the relationship among stressful life context, resilience, and depressive symptoms in midlife women.

The NSM is wellness-oriented and includes two major components: stress and the reaction to stress. Gigliotti (1999) remarks, "Neuman sees human beings as open systems, who consciously and unconsciously create their own environments both within and around themselves" (p. 36). The goal of this interaction, according to Neuman (1995), is "optimal system stability" (p. 22).

Stressors in Neuman's model are "tension-producing stimuli with the potential of causing system instability" (Neuman & Fawcett, 2002, p. 21) and may be physiological, psychological, sociocultural, developmental, and/or spiritual in nature. As stressors interact with the individual (also composed of physiological, psychological, sociocultural,

Figure 1. Neuman Systems Model.



Adapted from Neuman, B. (1995). The Neuman Systems Model, 3rd Ed.

developmental, and spiritual factors), the person's outer boundary, or flexible line of defense, is encountered. This flexible line of defense is illustrated by the outermost broken-lined circle in Figure 1. Neuman envisions this flexible defense as a "protective buffer system" for the person's normal or stable state, which is represented by the solid circle designated as the normal line of defense. The flexible line of defense is dynamic; capable of alteration over relatively short periods of time. As the line expands outward, it provides more protection for the individual in her steady state of functioning. Conversely, contraction of the flexible line of defense, either through client weakness or stressor strength, leads to less of a buffering effect for the client. Although the components of the flexible line of defense are learned or acquired, they tend to be immediate or situational in nature, such as recent adequacy of sleep or nutrition.

If stressors are insufficiently cushioned by the accordion-like flexible line of defense, penetration of the normal line of defense can occur. It is at this point that symptoms manifest themselves. Continued reaction of the system activates the individual's lines of resistance (inner broken line circles on Figure 1) in an attempt to reclaim a steady state or normal mode of functioning. In contrast to the flexible line of defense, these resistance barriers are inherent personal attributes which are developed over longer periods of time. As such, they are not quickly modified or altered. Examples might be the state of a person's immune system, family or support structures, or faith. Lines of resistance surround and protect the very core of the person's being. Inability of the lines of resistance to protect the core leads to "energy depletion and death" according to Neuman (1995, p. 30). Each concentric circle (flexible line of defense, normal line of

defense, line of resistance) contains elements related to five variables: physiological, psychological, developmental, sociocultural, and spiritual.

The Neuman Systems Model can be applied to clients as individuals, families, groups, or communities. All of these configurations represent systems in constant interaction with their internal and external environments. These systems are capable of warding off stressors by buffering effects or by implementing protective and restorative mechanisms once reaction and symptoms have occurred.

The NSM can also be used in examining and describing primary, secondary, or tertiary intervention strategies. According to Neuman (1995), "the major concern for nursing is in keeping the client system stable through accuracy in both assessing the effects and possible effects of environmental stressors and in assisting client adjustments required for an optimal wellness level...at a given point in time" (p. 33). Primary prevention strategies would be directed at reducing stressors or strengthening the flexible line of defense, thereby offering more protection for the individual's usual state of functioning. Aims of secondary prevention strategies would be to strengthen the lines of resistance once stressor penetration (symptoms) had occurred, in an attempt to protect the client's basic structures and regain system stability. Once some degree of system stability had occurred, tertiary prevention interventions could be directed toward supporting the achieved level of reconstitution and preventing further stressor reaction. It is important to note that in all the variety of interactions in which a client system may engage the environment, the usual or optimal level of functioning (normal line of defense) may itself be altered.

Delineating guidelines for the construction of NSM based studies, Fawcett (1995) emphasizes the identification of linkages between the model concepts and study variables. Many factors (stressors) contributing to depression in women in midlife have been proposed and studied. Depressive symptoms result from the inability of the woman's normal line of defense to withstand the onslaught of one or more of these stressors. The client system in this study is midlife women. Depressive symptoms are an expression of the penetration of stressor(s) through the client's usual state of functioning (Table 1). This infiltration activates a woman's lines of resistance, in an attempt to protect the vital forces of the individual or central core. An essential matter regards the placement of resilience within the conceptual model. In this study, resilience is considered a variable among those in the normal line of defense.

Table 1

Study Variables in Relationship to Conceptual Framework

Neuman systems model concepts	Study variables
Client/client system	Midlife women
Stressors	Stressful life events
Normal Line of Defense, including physiological, psychological, sociocultural, developmental, and spiritual variables	Resilience
Penetration of the Normal Line of Defense	Depressive symptoms

Review of Literature

This literature review focuses on the primary study variables of depression and resilience. Depression is illustrated with prevalence and incidence studies, followed by a description of the gender gap between men and women. Further work on the presentation of depression in women is introduced, including contributing factors and pathways. Acknowledging the numerous and complex stressors that may lead to the development of depression in women's lives, the focus of the review then shifts to resilience in promoting personal system stability and growth. Resilience is examined by highlighting the development of the concept over time, from early work with children and adolescents to synthesis of a view that encompasses many attributes such as equanimity, perseverance, self-reliance, meaningfulness, openness, creativity, optimism, health, self-efficacy, flexibility, resourcefulness, and positive emotions. Resilience measures are presented, along with utilization in research studies on selected groups of subjects, including women with depression.

Depression

Responding to a call for improved measures of the prevalence of mental and addictive disorders in the United States population, the National Institutes of Mental Health collaborated in 1980-1985 with five major university research groups across the country entitled the Epidemiological Catchment Area (ECA) study (Regier, Narrow, Rae, Manderscheid, Locke, & Goodwin, 1993). The purpose of the study was to assess the prevalence of mental and addictive disorders and to estimate the use of treatment in service points of the health care system. Data collection involved direct interview of a random sample of 20,291 persons at initial contact, with second interviews of 15,849

(78.1%) twelve months later. Unipolar depressive disorder, at a 3.2% annual incidence, demonstrated the highest rate of any affective disorder in the study. As quoted by Burvill (1995), the ECA study found a one-month prevalence rate of major depressive disorder in the community of 1.6% in males and 2.9% in females. The authors of the ECS study comment that

> analysis reveals actual service falls far short of the potential need and that a logical public health objective would be to keep the prevalence of the severe and persistent disorders as low as possible by rapid treatment of both acute disorders and acute sub threshold symptoms to prevent the emergence of a full-fledged disorder (p. 93).

Supporting these findings, the National Comorbidity Study (NCS) completed between 1990-1992 (Kessler et al., 1994) demonstrated a lifetime prevalence of major depressive episodes of 17% (12.7% in males and 21.3% in females). A follow-up to the ECA Study, the NCS was a congressionally mandated survey designed to study substance abuse and non-substance psychiatric disorders in the United States. A random sample of non-institutionalized respondents (n = 8,098) in the 48 contiguous states age 15-54 participated in a structured interview given by trained lay staff of the Survey Research Center of the University of Michigan. Fifty percent of the respondents reported at least one lifetime psychiatric disorder, 30% at least one experience within the last twelve months. The most commonly reported disorders were major depressive episodes (lifetime prevalence-17%, 12-month prevalence- 10%), alcohol dependence, and social/simple phobia. In addition, only 40% of the positive respondents had ever received professional treatment. Although both of these studies rely entirely on recall

during one or two interviews, depression is clearly identified as a significant health issue in the United States.

Expanding the scope of assessment, the Cross National Collaborative Group (1992) utilized 1980 data from nine epidemiologic surveys (North America, Puerto Rico, Western Europe, the Middle East, Asia, and the Pacific Rim) and three family studies to determine the age at first onset of major depression by birth cohort and time period. Over 40,000 respondents contributed to the findings which indicated increasing rates of major depression in all countries over time. Seven birth cohorts were defined: before 1905, 1905-1914, 1915-1924, 1925-1934, 1935-1944, 1945-1954, and later than 1955. Age of onset of depression was divided into ten year intervals from 5-74 years. Overall rates for depression in the North American site increased with each successively younger birth cohort, but it is interesting to note that the rates remained approximately equal for the subset of Hispanic samples. Although rates varied by country, the authors comment that "it is clear that major depression occurs across a broad range of cultures and that more recent generations are at increased risk" (p. 3104). As a retrospective study, this conclusion may not apply to present or future rates and it is possible that the increases reflect changes in meanings or attitudes toward emotional phenomena across different birth cohorts. The authors argue against this latter interpretation by noting the variance in short term trends across sites. Such variability, they contend, would not support reporting artifact. There was no suggestion or conjecture about causes or risk factors that accounted for the increased rates.

As suggested in previous studies, there is a distinct difference between men and women in the rate of depression. Mirowsky (1996) utilized data from three surveys: the

1990 U.S. Survey of Work, Family, and Well-Being (2031 respondents 18-90 years old), the 1985 Illinois Survey of Well-Being (809 respondents 18-85 years old) , and the 1988-89 National Survey of Families and Households (12,752 respondents 19-98 years old) to test a hypothesis that the gender gap in depression grows in adulthood "as women and men enter and live out their unequal adult statuses" (p. 376). The surveys asked seven questions from the Center for Epidemiologic Studies Depression Scale (CES-D). Each sample showed similar patterns of prevalence rates of female depression, male depression, and differences between the two. The gap between men and women (women higher) increased in successively older age groups, and part of the pattern was due to a quicker drop in rates for men over women. Mirowsky further concluded from the data analysis that at least half of the gender gap in depression "appears to result from emerging sexual stratification-from the growing disparity of demands, sacrifices, resources, and benefits" (p. 377).

Wilhelm, Parker, and Hadzi-Pavlovic (1997) reported a higher lifetime major depression rate than the NCS: 38% for women and 29 % for men. They noted fairly equivalent rates for the sexes in the late twenties age range, but a trend for higher female rates by the thirties, especially when "all depression" (major and minor) was included. This 1978-1993 longitudinal Australian study utilized multiple measures of depression in examining a group of 380 teachers to distinguish possible risk factors contributing to depression. Follow-up at five years (97 % response rate) and ten years (95% response rate) failed to find any sex differences in lifetime rates. At 15 years (92 % response rate) a trend had emerged for higher female rates, though with the small sample size it did not

reach a level of significance. Strong associations between anxiety and depressive symptoms were demonstrated.

The higher rates for depression occur for both black and white females. A study by Jones-Webb and Snowden (1993) used in-house interviews to examine the relationship between sociodemographic factors and depressive symptoms. Data were utilized from the 1984 National Alcohol Survey, which was designed to study drinking patterns and problems (including depressive symptoms) in the general population. Using a multistage probability sample of households in the 48 contiguous United States, 1947 black (75.9% response rate) and 1777 white (73.2% response rate) adults were selected for interviews in their home with a standardized questionnaire. Chi Square analysis of the relationship between sociodemographic variables and depressive symptoms as measured by the CES-D indicated that for blacks, the highest rate for depression was in females. Black females (n = 303) outnumbered black males (n = 101) by 25% to 15% (p less than or equal to .001) in prevalence of depression. For whites, the percentage of females with depressive symptoms was 19% (n = 206) versus 11% (n = 87) for males (p less than or equal to .001). Peak occurrence of depressive symptoms according to age was also demonstrated. For black women, respondents aged 30-39 years old (n = 106) had the highest prevalence (26%, p less than or equal to .01). The age distribution was bimodal for white women, with the majority of depressed women (18%) between 18-29 (n = 81), but a second mode (n = 39) during the 40-49 age range (16%). The age differences for white women were non-significant in all ranges. The authors conjectured that the age difference may relate to differences in the timing of exposure to stress in the lifespan.

These studies on depression highlight the increasing occurrence of depressive symptoms and the significance of depression as a health care issue, especially for women. The research studies involved large sample sizes across a time span of over 10 years and a span of geographic areas that covered the world. Most, however, utilized a single interview or data collection point that relied on participant recall. These cross-sectional studies each employed a single depression screening instrument, which could lead to reduced diagnostic precision. Little information is brought to bear on the contributing factors to depression, though stressful life events, social support, and family influences are implicated. Variation seems to exist among ethnic groups as well as age spans. Nevertheless, all support the high incidence of depressive symptoms in general, a greater level of occurrence in women, and note that the provision of health services falls far short of the need.

Depression in Women

Acknowledging the increased rates for occurrence of depression in women, many researchers have attempted to pinpoint commonalities in contributing factors or pathways. Woods, Lentz, Mitchell, and Oakley (1994) studied young adult Asian, Black, and White women in America in middle-income, racially mixed neighborhoods in King County, WA. They identified 901 census block groups in which 40 % of the population had incomes between $12,900 and $39,900 and from there a subset of block groups with at least 10% Black or Asian composition. Profiling these blocks they selected the most suitable from a standpoint of age, ethnicity, and education, and then randomly ordered street segments. Four hundred sixty-one women between 18-45 years old (75 Asian, 91 Black, and 295 White) were interviewed in their homes.

The model under analysis looked at the effects of personal resources, social demands and resources, and women's roles on self-esteem and depressed mood. Information was obtained on personal resources (education and income), social demands (Norbeck's adaptation of the Sarason Life Events Survey) and resources (Arizona Social Support Interview Schedule), socialization (Attitudes Toward Women Scale) and roles, self esteem (Rosenberg Self Esteem Scale) and the CES-D. Using Pearson product-moment correlation and multiple regression analysis, common predictors of depression were found to be attributes of a woman's social network, social demands, personal resources, and negative life events. Women's social networks, when characterized by little conflict, served as a protective factor. However, social networks demonstrating conflict contributed to depression.

Each ethnic group displayed a slightly different regression model, reflecting the varying context of their lives. For Asian women, income (beta = -0.304) and unconflicted social network (beta = -0.263) accounted for 23% of the variance in depression. For Black women, 31% of the variance was explained through number of negative life events (beta = 0.304), education (beta = -0.283), conflicted social network (beta = 0.277), and low religiosity (beta = 0.195). White women were impacted by the number of negative life events (beta = 0.423), conflicted social network (related to more depression, beta = 0.141), and education (beta = -0.129). The number of children (beta = -0.117, related to less depression in White women.

Sheppard's 1997 study on social and demographic factors related to maternal depression in women using health services in England supports some of the factors identified by Woods et al. (1994). Women (n = 701) with children under 18 years old in

two rural and urban areas of similar population size (25,000) completed the Beck Depression Inventory (BDI) and an instrument on social and demographic data including income, housing status and size, educational attainment, marital and familial circumstances. Eleven percent (n = 77) of the women demonstrated depression. Neither age nor employment factors had an impact on depression. Six percent (n =12) of women with higher education (n = 211) experienced depression, while 13% (65 of 490) of those who had not attained higher education were depressed (p=0.004).

The partner's employment status had a highly significant relationship to the occurrence of depression. Only 7% (37 of 509) of women whose partners were employed were depressed, while 25% (24 of 99) whose partners were out of work had difficulty. Housing arrangements also played a part, with only 5% who lived in owner occupied housing affected by depression (20 of 496), while 23% of those in council housing were depressed (40 of 174). The authors postulate that housing/living density was the operational factor. Having young children in the household was related to depression, with 18% (28 of 159) of women with 3 or more children under 14 affected, compared to 9% (49 of 542) of women without children in this age range. The most direct relationships to depression were in social disadvantage (housing status), family size (more than 3 children under 14 years old), and disrupted family history (marital breakdown). Limitations of the study included a one time data collection and the exclusion of physiologic factors or other psychological factors such as locus of control, self esteem, or life events.

The relationship of stressful life events and social support to depression is supported in Warren's 1997 study of middle class African American women. Warren

proposed a model that hypothesized a positive relationship between stressful life events and depression but a negative relationship among social support, self esteem and depression. Using the (a) Zung Self Rating Depression Scale (SDS) and the BDI to measure depression, (b) the Schedule of Recent Life Events/Recent Life Changes Questionnaire (SRLE/RLCQ) as an assessment of stressful life events, (c) Part II of the Personal Resource Questionnaire (PRQ) for social support; and (d) the Rosenberg Self-Esteem Scale (RSE), Warren studied 100 middle class participants, age 20-35 years old.

Women were recruited through contacts at churches, colleges and universities, business, and social clubs. In addition, a snowball method was employed. Participants were considered eligible if they scored 50 or greater on the SDS and had not been diagnosed or treated for depression in the past. The overall rate of depression using the SDS was 67% (100 of 149). Seventy-nine percent of these women (n = 79) scored in the mild range of depressive symptomatology, while 21% were in the moderate to severe range on the SDS. The BDI results indicated 30% in the mild to moderate range, and 24% in the moderate to severe demarcation. The SRLE/RLCQ scores (118 items) indicated a high number of stressors in women's lives over the past 6 months (range 4-88, mean = 65.63, SD = 28.63). The hypothesis relating stressful life events and depression was supported with both the SDS ($r = .21$, $p = .04$) and the BDI ($r = .29$, $p = .003$).

Most women perceived a high degree of social support (range 55-175, mean = 130.08, SD = 23.34). The relationship between depression and social support was negatively correlated, as predicted, with the SDS ($r = -.29$, $p = .01$), and the BDI ($r = -.27$, $p = .007$). However, the predicted negative relationship between self esteem and depression was not significant: SDS ($r = -.15$, $p = .14$), BDI ($r = -.17$, $p = .10$).

Warren (1997) concludes by advising nurses "to assist...women in developing strategies and interventions that would strengthen women's abilities to cope with stress" (p. 116).

These studies in women begin to identify pathways or contributors to depression, including the impact of social networks, social demands, personal resources, and negative life events. The studies also suggest that the factors vary between ethnic groups and ages. Sample sizes were large, and continue to support the prevalence of depression in women. However, most studies are still cross-sectional and rely on a single data collection point. The use of self-report measurements introduces an element of subjectivity. Most sampling is done by convenience. The CES-D is often used as a measure of depression in community studies. Accepting the prevalence of depression in women, it appears that identifying and working with the many possible contributing factors and variables would be a challenging puzzle to assemble.

Midlife Women and Depression

Recent articles on depression in women have addressed the mid-life age range. Bromberger and Matthews (1996) observed 460 premenopausal women, aged 42-50, across a 3 year period to discover characteristics of middle-aged women that bring about a vulnerability to depression. Participants were part of a larger sample of 541 women (randomly sampled from drivers license records) involved in an investigation of the effects of menopause on behavior and cardiovascular factors. The authors examined optimism (Life Orientation Test), trait anxiety (State Trait Anxiety Inventory), and depressive symptoms (BDI) at a premenopausal baseline. It is interesting to note that at baseline, 71 of the 541 respondents (7.6%) scored greater than 9 (the threshold score suggestive of depression) on the BDI, and thus were excluded from further analysis.

Three years later, the same measures were readministered, along with stressful life events, which included acute and chronic subsets (Pilkonis Life Event Schedule), and menopausal status. The study sample included women scoring less than or equal to 9 on the BDI, who had menstrual bleeding within the last three months, were not in surgical menopause, nor on psychotropic medications at study entry. The selected group differed slightly from those who refused to participate in that the study participants had a somewhat higher socioeconomic status, were better educated, married (75%), and employed (73%). Ninety-eight percent (n = 460) of the initial participants completed the study instruments at both data collection points.

Hierarchical linear regression analysis of the data indicated that pessimistic attitudes and higher trait anxiety at baseline predicted subsequent depressive symptoms, with pessimism more influential when stress was present than when it was absent. It is especially interesting to note that the study did not confirm any significant effect of menopause on depressive symptoms. The authors caution that it is possible that anxiety may have acted to increase present stressors, and also that it can be difficult to distinguish between anxiety and depression in assessments. This study's strengths included elements of random sampling and a longitudinal design. Results suggest the importance of personality characteristics in the development of depression.

Woods and Mitchell (1997) completed a longitudinal inquiry into mid-life women and depression using data from the Seattle Women's Health Study. Sampling procedures for the overall study maximized the potential for involvement by ethnic groups by using census tracts that included Asian-American, African-American, and Euro-American

women. Residential phone numbers were called until 820 women who met eligibility criteria were identified. The primary study included 508 participants.

Information from a subset (all participants who completed the relevant measures for one year of the study) of 377 ethnically diverse participants (8% Asian American, 8% African American, 80% EuroAmerican) was analyzed on criteria of menopausal changes (regularity), socialization for mid-life (Attitudes Toward Menopause Scale), health status (rating, perception, chronic illness), vasomotor symptoms (hot flashes and night sweats via the Washington Women's Health Diary), stressful life context (Norbeck's adaptation of the Sarason Life Events Survey), and depressed mood (CES-D). Structured in-home interviews were conducted by graduate nursing students, along with participant recording of vasomotor symptoms for 80 days. Three pathways leading to depression in midlife were tested: menopausal transition, stressful life context, and health status.

In this sample, stressful life context was the dominant factor related to depressed mood, and poor health also had a demonstrated effect. Vasomotor symptoms and menopausal transition effects on depressed mood were not significant. The authors conclude that "clinicians caring for midlife women should look beyond menopause for explanations of depressed mood, including the social context of women's lives" (p. 127).

The potential inaccuracy of relating the mood of midlife women to natural menopause transition is supported by Dennerstein, Randolph, Taffe, Dudley, and Burger (2002). Examining the well-being during menopausal transition and the relationship to hormonal changes, these researchers studied 226 Australian born women 45-55 years old in a prospective observational effort named the Melbourne Women's Midlife Health Project. Sample selection was initiated with random telephone dialing and baseline

telephone interviews of 2001 women in Melbourne. Those with menses within the last three months who were not taking oral contraceptives or hormone therapy were invited to participate. Compared to non-participants, study volunteers were more likely to report better health, be in paid employment, have more than 12 years of education, and exercise at least once a week. In the Dennerstein et al. (2002) study sample, participants' mood was assessed annually for eight years during menopause using the Affectometer 2 Scale in combination with blood hormone levels. According to the investigators, the negative mood subscale of the Affectometer 2 was highly correlated ($r = 0.83$) with the BDI. Neither positive nor negative mood scores were related to any of the hormone measures.

Balancing these views on mood and menopause, Bromberger, Meyer, Kravitz, Sommer, Cordal, Powell, Ganz, and Sutton-Tyrrell (2001) looked at whether psychologic distress is reported more frequently by perimenopausal and postmenopausal women, whether the prevalence of psychologic distress varies by race or ethnicity, and the effect of confounding variables such as vasomotor symptoms and sleep difficulties. The Study of Women's Health Across the Nation (SWAN) was a community-based cross sectional survey implemented between 1995 and 1997 coupled with a longitudinal aspect which tracked changes as the participants experienced menopause. The sample included 10,374 women 40-55 years old (49.2% White, 25.8% African American, 13.5% Hispanic American, 5% Chinese American, and 6.3% Japanese American). Women in the study were randomly sampled from a variety of lists (large managed health care plan, community censuses, registered voter lists) or through random-digit dialing. The sample was supplemented through a snowball method in two areas to increase participation of Hispanic and Japanese women. Excluded from the study were women who had taken

reproductive hormones in the last three months, were pregnant, had undergone a hysterectomy, or had not menstruated for the past 12 months due to pregnancy, breast feeding, medication, severe weight loss, or illness.

Participants were surveyed regarding psychological distress, menopausal status (pre-, early peri-, late peri-, postmenopausal), sociodemographic factors (age, marital status, and educational level), psychological factors (financial strain, social support), health-behavior patterns (general health, specific disease conditions), vasomotor symptoms, and difficulty sleeping. Psychologic distress, defined as feeling tense, depressed, or irritable in the previous two weeks, was reported by 24.1% of women, with the highest odds in early perimenopause, and the lowest in premenopause and postmenopause. Odds of distress were highest for White women.

Potential correlates of psychological distress were analyzed using t tests for continuous variables and Chi Square tests for categorical variables. Variables having a significance level of 5% or less were then included in logistic regression analysis. Vasomotor symptoms and sleep difficulties were strongly associated with psychologic distress. Marital status, employment status, physical activity, and number of reported medical conditions demonstrated no significant relationship. Overall, this study demonstrated that perimenopause carries an increased risk for psychologic distress. However, the measure of distress used was not a standardized instrument, and few measures of life stress were included. It does "identify a discrete period of time during which women may be more likely to experience and report distressed states" (p. 1441).

These studies on depressive symptoms in mid-life women have utilized large samples of diverse ethnicities. Depression affects mid-life women of varying cultures

and sociodemographic factors. The inclusion of longitudinal design aspects has increased the understanding of relationships among variables. Although many people believe that depression in midlife is directly related to a menopausal transition, these studies have not substantiated that relationship. From these studies, life stress appears to be a dominant factor affecting depressed mood.

Resilience

Several factors suggest the need to examine what might affect depression in midlife women. These include the increasing incidence of depression overall, the higher rates for women across ethnic groups, and the somewhat confusing array of contributing factors. One topic worthy of this examination is resilience.

Debate on the concept of resilience has ensued since the inception of discussions in the 1980s, and confusion exists about whether to consider resilience a stable personality trait, a pattern, or an event-specific response. Most authors envision resilience as a relatively stable personality characteristic or trait. This trait is an ability inherent in the individual or acquired over time (Block & Kremen, 1996; Wagnild & Young, 1993; Polk, 1997). Others define resilience as a process or mechanism. Individuals use resilience to bounce back, transform, build, and grow from life situations (Dyer & McGuinness, 1996). In the latter perspective, competencies or abilities of the individual are necessary for resilience to occur, and these are often termed protective factors. Jacelon (1997) notes, however, that there is less agreement among authors proposing resilience as a process or mechanism, stating that the "body of literature is less developed," and that "lack of clarity exists regarding steps in the process" (p. 128).

Polk (1997) has conceptualized the defining characteristics of resilience as a mechanism with a set of four unfolding patterns (dispositional, relational, situational, and philosophical) "each contributing both individually and synergistically to a personal web of support for each individual" (p. 5). Resilience, according to Polk (2000), is a pattern of thought and behavior that develops over time through interaction between the person and the environment. It is "an ability to transform adversity or challenge into a growth experience" (p. 88). Whatever the terminology, individuals can access attributes that promote positive response to adversity, restoration of equilibrium, and a higher state of well-being. The following review provides some perspective on studies of resilience, including investigations specific to women.

Rutter (1987) developed the investigation of resilience in several respects. He stressed that the process or mechanism is important, rather than specific variables or factors. The protective effects of individual resilience are elicited only in combination with the presented risk. Additionally, he suggested the existence of "key turning points" in people's lives during which these processes are implemented. Four avenues were proposed for these mechanisms: (a) reduction of risk impact (altering exposure, altering perception of the risk), (b) reduction of negative chain reactions that follow exposure, (c) improving self-esteem (feeling one's own self-worth) and self-efficacy (conviction that one can cope successfully with life's challenges through personal relationships and task accomplishment), and (d) the opening up of opportunities. Protection, Rutter argues, "does not reside in the psychological chemistry of the moment but in the ways in which people deal with life changes and in what they do about their stressful or disadvantageous circumstances" (p. 329). Although Rutter has not conducted a research study, this work

is included because of the seminal nature of its contribution to the conceptual development of resilience.

In 1990, Wagnild and Young published the results of a qualitative study of older women. The women had evidence of successful adjustment to a recent major loss including social involvement, morale, and a self-report. Twenty-four Caucasian women, aged 67-92 years, participated in this grounded theory study. Five themes were identified from the participants' information: equanimity (having a balanced and broad perspective of one's life), perseverance (persistence despite adversity or discouragement), self-reliance (belief in oneself and one's capabilities), meaningfulness (life has a purpose and one's contributions have value), and existential aloneness (each person's life path is unique). Wagnild and Young saw these five themes as mechanisms used to restore balance following a difficult experience.

Following the qualitative study, Wagnild and Young (1993) proceeded to develop a Resilience Scale (RS) to measure the degree of individual resilience. Resilience was defined as a "positive personality characteristic that enhances individual adaptation" (p. 167). This tool was comprised of 25 verbatim statements from the original participants reflecting five themes. Respondents were asked to respond to each statement using a seven-point scale. Scores could range from 25-175 with 175 indicating the highest level of resilience. A pilot form was tested with 39 undergraduate nursing students, then used in five studies prior to the one discussed here.

A random sample of 1500 community dwelling older adults in the Northwest United States was surveyed from the readership of a senior citizen periodical. The response rate was 54% (n = 810). Included in the packet was a demographic

questionnaire, the RS, and instruments measuring morale (Philadelphia Geriatric Center Morale Scale), life satisfaction (Life Satisfaction Index-A), depression (BDI), and somatic health. Sample participants ranged in age from 53-95 years (mean of 71.1 years), 62.3 % were female, and 61.2 % were married. Most reported good to excellent health, and 66.2 % were educated beyond high school. The sample was overwhelmingly Caucasian. Scores on the RS ranged from 75-175, with a mean of 147.91 (SD = 16.85). The RS had a reliability coefficient alpha of 0.91. Item-to-item correlation was 0.37-0.75 and significant at p less than or equal to .001.

There was no significant relationship between the RS and age, income, education, or gender. Resilience scores were associated with high morale (r = .28), life satisfaction (r = .30), better physical health (r = .26) and a lower level of depression (r = -.37). The primary factors composing resilience according to the RS are personal competence (self-reliance, independence, determination, invincibility, mastery, resourcefulness, and perseverance) and the acceptance of self and life (adaptability, balance, flexibility, balanced life perspective). One limitation of the RS is its inability to measure low resilience, or resilience in the "negative direction." Wagnild and Young also refer to resilience at one point as a "mechanism," but treat it as a personality characteristic. A longitudinal study would be useful to gather information on development of the characteristic and stability over time. Most of the researchers' work has been accomplished with women and the elderly. Application of the tool to varied populations would increase understanding of its generalizability.

Many studies on resilience have focused on children and adolescents. Hunter and Chandler (1999) utilized the Wagnild and Young RS coupled with a qualitative

component in a pilot study on the self-perception of resilience in 51 tenth and eleventh grade students from four randomly selected inner city high school English classes. The purpose of the study was to explore what resilience means to adolescents and whether the RS could be used in adolescent populations. Students were identified as high-risk, low income minority adolescents. Participants had a high rate of gang membership, dropping out, teen pregnancy, and violence.

The RS and a demographic profile were completed on the first day of the study. On nine successive days, students wrote their thoughts and feelings related to chosen stimuli ("something from your childhood you don't have now," and "who you are in five years") followed by group discussion. Most adolescents perceived themselves as resilient on the RS, with a mean score of 5.3 (range 1 to 7, 1 = not resilient and 7 = very resilient). Multivariate statistical comparisons of the RS and the demographic data revealed that girls (mean = 4.9) thought of themselves as less resilient than boys (mean = 5.3, $p < .01$), Caucasians (mean = 4.9) as less resilient than their Latino (mean = 5.6) and African American (mean = 5.2, $p < .01$) counterparts. Qualitative analysis of the writings however, revealed that participants attributed their resilience to their sense of invincibility, insulation of feelings, isolation, distrust, and acting out/being violent. Resilience meant "being insular disconnected, self-reliant, self-protective with no one to depend on or trust but themselves" (p. 245). The conflicting impressions of resilience provided by use of the RS versus expression of thoughts and feelings highlight the complexity of the construct and suggest that one instrument may not be applicable to all situations and life periods.

The possible mediating or moderating activity of resilience in the development of depressive symptoms was studied by Aroian and Norris (2000). The study sample included 450 Russian immigrants to Israel between 1990-1995. Participants were recruited through advertisements in local Russian and Hebrew newspapers. Criteria included emigration from the former Soviet Union within the previous five years, residence in the Haifa area, and age of 18 or older. The researchers utilized a 9-item modified version of Wagnild and Young's RS, a Demands of Immigration Scale, and the Symptom Checklist 90-R to measure depression. All instruments were in Russian, and were administered in the participant homes by data collectors who were also Russian immigrants. The study sample was composed of 47.1% men and 52.9% women. Results indicated that resilience did not modify or mediate the relationship between the demands of immigration and depression. The researchers note that the effect of resilience may be more distant in time than this study was able to capture. Among the demographic variables, neither marital status, education, nor employment was significantly correlated with depression, while a higher rate of depression among women was supported. It would be interesting to include another measure of stressful life context beyond response to immigration alone.

Miller and Chandler (2002) also studied resilience and depression in midlife women from the former Soviet Union. Data from a cross-sectional study named the Migration and Health Project were utilized to examine the relationship between sociodemographic variables (age, marital status, religion, ethnicity, education, and years in the United States), resilience, and symptoms of depression. Participants were volunteer women in the Chicago area between 45-65 years old. Recruitment of subjects

was accomplished through advertisement in a local Russian-language newspaper. Women were excluded if they had resided in the United States more than 6 years, were on antipsychotic medications, or had been hospitalized with a mental illness. Data were collected in the participant's home or at a mutually agreed upon location, in a session usually lasting 2-3 hours. The modified Russian-language version of the Wagnild and Young Resilience Scale and the Russian version of the CES-D (alpha = .90) were used. Eighty-four percent of the study participants scored 16 or more on the CES-D, which indicated the presence of depressive symptoms. Analysis of variance was used to examine the differences in measures by sociodemographic characteristics. The CES-D score differed significantly by education ($F = 12.52$, df 1,198, $p = .001$). Scores were higher for women with less than a baccalaureate degree and for older women in the sample. There was no difference in relationship to marital status or religious ethnicity. Resilience was significantly correlated with English usage (0.190, $p = .01$) and negatively correlated with the CES-D (-0.336, $p = .05$). Limitations include the volunteer nature of the sample, and the cross-sectional study design. Additionally, a high proportion of the study participants were aged 55 or over, and therefore less likely to be employed.

Aligned with a focus on women's strengths (rather than risk factors or weaknesses) in fending off or battling depressive symptoms, Heilemann, Lee, and Kury (2002) studied resilience in relationship to depression in women of Mexican descent in the United States. One aim of the study was to investigate the level of depressive symptoms in relation to acculturation as measured by place of birth, language preference, and exposure to the United States in childhood. A second interest was directed at the impact of resources (income, education, partner status), risk (acculturation, alcohol), and

intrinsic strength (mastery, life satisfaction, spiritual beliefs, resilience). Three hundred fifteen women 21-40 years old in an urban northern California community were surveyed using the modified version of the RS, Sense of Mastery Scale by Pearlin and Schooler, and the CES-D. All instruments were available in Spanish and English versions. Participants completed the instruments while they were waiting for appointments at a clinic or a dual immersion school and received a small monetary stipend in return.

Data were analyzed using descriptive statistics and multiple regression analysis. The mean CES-D score for the sample was 17.9 (SD 11.1). A majority of the study respondents were at risk for depression with a CES-D greater than or equal to 16 (53%). Twenty-eight percent were at high risk, having scores greater than 24. Income (rho = -.16, p= 0.004) and education (rho = -.12, p=0.04) were inversely related to depression. Partnered women had significantly lower (t = - 2.942, p = .004) CES-D scores (M = 17.0; SD = 10.6) than single women (M = 21.5; SD = 12.3). Thirty-one percent of the variance in depressive symptoms, regardless of the number of resources and risk factors, was explained by three intrinsic strength factors: mastery, life-satisfaction, and resilience (Acceptance of Self and Life component of the RS). In ascertaining income information, researchers asked whether or not the financial resources were adequate to meet daily needs during the past month, which was intended to provide useful information on stressors. The use of a convenience cross-sectional sample describes relationships similar to previous studies, but cannot attribute causality and is not generalizable to larger populations.

The multi-dimensional nature of resilience continues to be illuminated and defined. Noting that the American Psychiatric Association (2000) textbook of

psychological measures listed no instrument for resilience, Connor and Davidson (2003) synthesized components of resilience in the literature into the Connor-Davidson Resilience Scale (CD-RISC). Their goal was "to develop a valid and reliable measure to quantify resilience, to establish reference values for resilience in the general population and in clinical samples, and to assess the modifiability of resilience in response to pharmacologic treatment in a clinical population" (p. 77). This tool utilizes 25 items rated on a 5 point (0-4) scale, reflecting how the subjects felt in each component over the past month. Higher scores indicate higher resilience. Initial testing was performed with a community sample (n = 577), primary care outpatients (n = 139), general psychiatric outpatients (n = 43), a clinical trial of clients with generalized anxiety disorder (n = 25), and two clinical trials (n = 22 for both groups) of clients with post traumatic stress disorder (PTSD). Several samples were not normally distributed, so a median measure of the CD-RISC was calculated for each group, and comparisons performed through Wilcoxon Rank Sum Tests ($p < .05$ as significant) with Bonferroni correction and a Kruskal-Wallis test for multiple group comparisons.

Significant differences in resilience were found for the general population versus each of the other groups, primary care vs. general anxiety disorder, and primary care vs. PTSD. Mean scores on the CD-RISC for men (77.2) and women (77.1) were almost identical, and there was no correlation between age and the resilience scale. Factor analysis for subjects in the general population identified five primary resilience factors: (a) personal competence/high standards/tenacity, (b) trust in one's instincts/tolerating negative effects/strengthening effects of stress, (c) positive acceptance of change/secure relationships, (d) control, and (e) spiritual influences. The researchers also evaluated

resilience in the PTSD group pre- and post-pharmacologic treatment, and noted that resilience levels increased with clinical improvement. They conclude that resilience is modifiable, and suggest that the tool could be used to assess response to intervention as well as to screen individuals for high risk, high stress occupations or activities. Connor and Davidson also suggest that a prospective study on resilience would provide additional information on whether resilience predicts stress response or is developed by exposure to stress.

Fredrickson, Tugade, Waugh, and Larkin (2003) have added to the description of resilience with the concept of positive emotions. In a prospective study of 47 college students and recent graduates, two hypotheses were explored: first, that resilient people are buffered from depression by positive emotions, and second, that resilient people thrive through positive emotion. Outcomes of measures completed before the September 11th terrorist attacks were compared with post-event measures to identify active ingredients in resilience. Pre-crisis instruments included Block and Kremen's Ego Resiliency Scale, a shortened version of Cost and McCrae's Five Factor Inventory (using subscales on neuroticism, extraversion, and openness) and a Satisfaction with Life Scale. Post-crisis measures were administered within 5 days of the event. These included the pre-crisis tools as well as: (a) an affective grid which individuals used to describe their predominant current feeling, (b) the CES-D (Cronbach's alpha = .88), (c) a self-description of an important problem or stressful situation experienced since the attack, (d) the Positive Meaning Scale, and (e) the Differential Emotions Scale.

Resilience was positively correlated with life satisfaction, optimism, and tranquility, both before and after the September 11th attacks. It was also positively

correlated with finding positive meaning and six positive emotions (interest, joy, hope, sexual desire, pride, and contentment). Seventy-two percent of the participants indicated depressive symptoms after September 11th. Resilience was negatively correlated with the CES-D ($r = -0.24$, $p < .05$). The authors conclude that positive emotions are an active ingredient that buffers resilient people against depression, and suggest that it would be useful to learn how to cultivate positive emotions.

Within nursing, interest in resilience is mounting. Polk (2000), building upon her previous work in concept synthesis, developed an instrument to operationalize the construct. She envisions resilience as "the synergistic interaction among dispositional, relational, situational, and philosophical patterns" that develops over time (p. 9). Beginning with 112 descriptors culled from literature on resilience, a distilled list of 46 aspects was developed based on input from four national experts (3 nurses and 1 social worker). This form, the initial Polk Resilience Patterns Scale (PRPS), was piloted with a group of students from a religiously affiliated university.

Participants ($n = 232$) ranged in age from 18-25, and were solicited from classes, a health fair, and dining facilities. The questionnaires took 10 minutes to complete, with a 81% return rate for the packets. Item analysis yielded a second form of the PRPS, which included 5 items from each subscale (total of 20) and retained responses with the highest item-total correlation. An attempt was made to retain at least 2 negatively-phrased items per subscale. The revised 20-item version was then studied at the same location with similar subjects, using the same method to solicit participants. Along with the PRPS, 153 participants completed the Personal Resilience Questionnaire (PRQ), the Orientation to Life Questionnaire on coherence (OLQ; concurrent validity),

Psychological Hardiness Scale (PHS: concurrent validity), the Learned Helplessness Scale (LHS; discriminant validity) a reverse scoring of the Nowotny Hope Scale (NHS; discriminant validity), and a personal profile form. The scales averaged 45 minutes to complete, with a response rate of 40%. Cronbach's alpha for the PRPS was .90 in this study.

Significant correlations were as expected for all of the tools. The only demographics significantly related to resilience were the current health rating and a history of mental health problems. Limitations of the study include the volunteer sample and the homogeneity of the population. Polk refers to resilience using different terms: mechanism, patterns, attributes, skills, abilities, and aspects. She defines resilience as "a synergistic interaction among the dispositional, relational, situational, and philosophical patterns which enable an individual to transform stressful experiences into opportunities for increased growth" (p. 6).

Clearly resilience is a complex construct. It has been described as a trait, a process, a mechanism, and a pattern. One commonality is its occurrence in response to stressors or major life events. It has also been postulated that resilience is dynamic and may differ among individuals and throughout the lifespan. Polk's (2000) conception of resilience as an unfolding, increasingly diverse pattern which "occurs through the transformative nature of disorganizing experiences" (p. 11) fits well with Neuman's presentation of the normal line of defense (NLD). The NLD is "a normal range of responses to the environment...it represents change over time through coping with diverse stress encounters" (Neuman & Fawcett, 2002, p. 14). The NLD is considered dynamic in that it can expand or contract over time, and is determined by the adjustment

of the five client system variables to environmental stressors. In this study of resilience, stressors, and depressive symptoms on midlife women, resilience is conceptualized as a dynamic response variable that is part of the normal line of defense of the client system.

Summary and Implications for Study

The incidence of depression continues to increase. Women experience depression at rates up to twice that of men, and 40% to 50% of cases are untreated. Many factors impact the development of depression in mid-life women. Generally accepted among these are aspects of a woman's social network, education, income, and stressful life events. Less agreement exists on the contribution of menopausal status and self-esteem. Given the wide and complex array of potential factors influencing depression, it would be helpful to shift the focus to women's strengths or capabilities. By identifying, exploring, and preventatively developing these resources, nurses could assist women in preparing for the stressors of mid-life and perhaps alter the path to depression.

Resilience is one such resource. Initially researched with children, there are indications that the characteristics of resilience may change across the lifespan. Most studies of women have been single-point cross-sectional efforts involving convenience samples of participants. Lack of clarity exists on whether resilience is a trait or a process. Few measurement tools have been developed and tested. This study will utilize a recently developed resilience instrument, the Polk Resilience Pattern Scale, and introduce random sampling.

Research Questions

Data from this study can be used to support or refute previous conclusions on the prevalence of depression in mid-life women, and the relationship of depression with specific demographic, situational, and environmental variables. Specifically, however, this study will seek to examine the following research questions:

1. What is the relationship between resilience and selected demographic variables?
2. What is the relationship between resilience and depressive symptoms?
3. How does the existence of stressful life events affect the relationship between resilience and depression?

Definition of Terms

Resilience

Resilience is seen as a personal quality composed of dispositional, relational, situational, and philosophical patterns which a woman employs in interaction with her environment. This attribute of resilience develops over time and forms a "personal web of support for each individual (Polk 2000, p. 5). In this study, resilience is conceptualized as a component of the normal line of defense in the Neuman Systems Model and operationalized by the use of the Polk Resilience Patterns Scale.

Depression

Depression is a dynamic mood state ranging from feeling blue to despair and hopelessness. It is expressed in a woman's feelings, thoughts, and behavior and is a reflection of the penetration of stressors through her normal line of defense in interaction with the environment. The experience of depression can encompass helplessness, hopelessness, guilt, negative thinking, sadness, loss of energy, eating and sleeping

disruptions, difficulty concentrating, and alterations in interpersonal interactions. In this study, depressive symptoms are measured with the use of the CES-D (Radloff, 1977), a community-oriented screening tool.

Life Events

Life events are changes or occurrences that impact a woman's usual pattern of functioning. They may be classified as "good" or "bad" and may vary in intensity and/or duration. In the Neuman Systems Model, life events are depicted as stressors impinging on the normal line of defense. Neuman and Fawcett (2002) describe stressors as "inherently neutral or inert (p. 21)," commenting that it is the client's perception of the encounter with the stressors that determines whether it produces a positive or negative outcome. In this study, life events are measured by the Life Events Questionnaire (LEQ).

CHAPTER 3

METHODS

Design

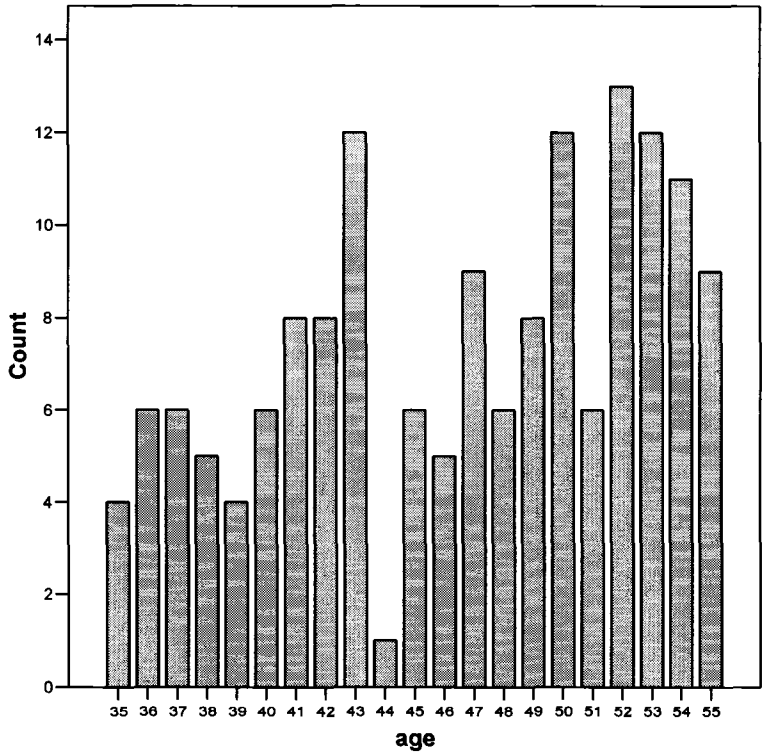
This study on resilience and depressive symptoms in mid-life women employed a non-experimental descriptive design. A single point of measurement utilizing written survey instruments on demographics, stressful life events, resilience, and depressive symptoms was mailed to a sample of mid-life women randomly chosen from the personnel lists of four acute care hospitals. Advantages of this method included the ease of administration, lack of interviewer bias, complete anonymity, and access to a larger and more geographically diverse sample. Disadvantages to be acknowledged included the cross-sectional nature of the design, traditional low response rates of survey mailings, inability to clarify questions on the research instruments with respondents, the possibility of missing information, and the lack of opportunity to gather additional data beyond the scope of the surveys. To address some of these concerns, the initial mailing included 400 potential participants. The use of a larger sample size attempted to balance the homogeneity of the population, the number of variables involved in the study, the decreased precision of psychological measures, and the use of a relatively new resilience survey instrument.

Sample and Setting

The target population included women who were between 35-55 years old, and could read English. The initial sample was randomly selected from the human resources list of all women 35-55 years old working in any role in four health care systems. One hundred fifty-nine women returned completed study packets, for a return rate of 40%. Of these, two packets were missing more than one tool, and were excluded from the study.

Study participants were primarily white, non-Hispanic. The mean age of study participants was 46.62, with a fairly equal distribution across the ages (Figure 2). It is interesting to note that there was only one participant who was 44 years old.

Figure 2. Age Distribution of Participants.



Most participants rated their health as either good, very good, or excellent. Over 80% were married and living with their partner, and most (59%) reported an education

level of college graduate or above. Given the sampling from human resources lists, it is not surprising that all participants were employed. However, only 23% worked in a full-time capacity.

Instruments

Survey instruments utilized in this study included a personal profile for demographic information, Norbeck's Life Events Questionnaire as a measurement of life stressors, the Center for Epidemiological Studies Depression Scale, and the Polk Resilience Patterns Scale.

Demographic Information

The Personal Profile (Appendix B) included initial questions on depression and antidepressant use history as well as information on age, marital status, financial resources, education, occupation/employment, and ethnicity. In addition, a general question targeting sleep adequacy and overall health was included, as these factors have been found to affect depression in mid-life women in the cited studies. Although menopausal status has not been directly linked to the development of depression, a question was included to more fully describe the study sample.

Life Events

Norbeck's (1984) Life Events Questionnaire (LEQ) (Appendix C) is an 82-item scale which describes events related to health, work, school, residence, love and marriage, family and close friends, personal and social matters, financial matters, crime and legal matters, and parenting. Respondents were asked whether each listed event occurred in the past year, and whether the event was perceived as good or bad. The magnitude of the event was also assessed, from 0 (no effect) to 3 (great effect). Scores

were calculated surrounding positive life events, negative life events, and both positive and negative events. Norbeck's scale is an adaptation of the Sarason Life Events Survey (Sarason, Johnson, & Siergel, 1978) modified to increase the relevance of the scale to women's lives. Norbeck added new items to Sarason's original tool based on interviews with 32 single mothers. Their responses were compared with lists of life events from three existing instruments (Holmes and Rahe's Recent Life Changes Questionnaire, the Psychiatric Epidemiology Research Interview Life Events Scale, and Sarason's Life Experience Survey). Nine new items were incorporated into Sarason's original instrument, and the list was reorganized into categories. Items and instructions were also reworded to reduce sexist bias.

Test-retest reliability for 1 week was found to be 0.78 for the Negative Life Events Scale, 0.83 for the Positive Life Events Scale, and 0.81 for the combined score (Norbeck, 1984). Validity of the overall LEQ was evaluated in relationship to the Spielberger State-Trait Anxiety Inventory, the Profile of Mood States, and the Brief Symptom Inventory form of the SCL-90. Norbeck's tool was created to specifically assess the life events of adult female respondents of childbearing age. Norbeck's adaptation is more applicable to women of childbearing age, therefore it may not be as accurate for younger or older women. Given the method of completing this tool, only test-retest reliability is possible. Test-retest reliability could not be determined in this one-time survey study.

Depression

The Center for Epidemiological Studies Depression Scale (CES-D) (Appendix D) is a 20 item self-report instrument developed for screening community samples. It is used to measure the current level of depressive symptomatology, with an emphasis on mood. Items are scored on a 4 point scale, assessing presence of the symptom over the last two weeks, from 0 (rarely or none of the time) to 3 (most or all of the time). Four positively worded items are reverse coded. Items are summed for a total score, yielding a possible range of 0-60. Higher scores indicate more severe depressive symptoms, with 16 designated as a cut-off point to suggest clinical depression requiring future evaluation.

Internal consistency has been measured at 0.85 for the general population and 0.90 for psychiatric inpatients (American Psychiatric Association, 2000). Split-half reliability was also high at 0.77-0.92. Cronbach's alphas in several studies reported in this paper are high: 0.89 (Woods et al., 1994), 0.80 (Heilemann et al., 2002), 0.88 (Jones-Webb & Snowden, 1993). In this current study, the Cronbach alpha was measured at 0.92. The test-retest reliability range has been reported as $r = 0.51$ to 0.67 for time periods between 2.5 and 8 weeks (American Psychiatric Association, 2000). Validity has been supported in comparisons with other measures of depression, including the Hamilton Rating Scale and the Symptom Checklist 90. Additionally, a higher number of psychiatric patients (70%) than the general population (21%) had a score greater than or equal to 16.

The CES-D requires only 5-10 minutes to complete, and utilizes clear, simple language, with a Flesch-Kincaid Grade Level measured at 4.1. However, arguments have

been presented that the instrument is more a measure of general distress than actual depression. Similar to other self-report depression measures, definitive diagnosis would require a follow-up interview. Results of a study by Meyers and Weissman (1980) suggest that although a self-report tool can be used as a screening device for research purposes, it is "not efficient in identifying cases of minor depression or depressive personality in the community" (p. 1083).

Resilience

Polk (2000) developed an instrument to operationalize the construct of resilience as an integration of four evolving personal life patterns: philosophical, relational, dispositional, and situational. The Polk Resilience Patterns Scale (PRPS) (Appendix E) is a 20-item tool in which respondents are asked to respond to statements describing ways of acting, thinking, and feeling when faced with a problem. A six point Likert scale (from almost never to almost always) is used by participants to measure how often the statement applies to them. Permission from the author to use and reproduce the PRPS in this thesis are in Appendix F & G.

In creating the tool, Polk started with 112 items synthesized from a concept analysis of resilience in literature. Four national resilience experts reviewed these selections for content validity and assignment to one of the four dispositional patterns. From this exercise, a second scale of 46 items was created. This initial PRPS was then piloted with a group of 232 undergraduate religious university students, and item analysis reduced the number of statements to 20 total items, five for each of the four patterns. As cited by Polk (2000) the shortened tool was compared to several existing tools: the Personal Resilience Questionnaire, Antonovsky's Orientation to Life Questionnaire

created in 1993, Younkin's 1992 Psychological Hardiness Scale, Abramson, Seligman, & Teasdale's 1978 Learned Helplessness Scale, the 1988 Nowotny Hope Scale, and a personal profile. These comparisons yielded conclusions of concurrent and discriminant validity. In Polk's (2000) study, the Cronbach's alpha for the PRPS was 0.90. In this current study, Cronbach's alpha for the entire PRPS was measured at 0.92. Additionally, in the current study, Cronbach's alpha for the dispositional subscale was 0.80, the situational subscale 0.63, the relational subscale 0.82, and the philosophical subscale 0.88.

Procedure

Potential participants were randomly sampled from the Human Resources list of employees from four health care systems. Ready-to-mail packets were created comprising a cover letter (Appendix H), the LEQ, the PRPS, a Personal Profile, and the CES-D screening tool.

Complete packets were mailed by Human Resources staff to members of the study sample from each facility chosen using a random number generator. A stamped envelope for return of the questionnaires to the primary researcher was included. Follow-up reminder postcards (at one week) to all participants were utilized to increase the response rate. Another postcard (Appendix I) was included to be returned by the participant separately from the completed research instrument's return mailing. The card contained a check box allowing the woman to indicate her desire to receive a study summary, or to be involved in a future study on resilience by the researcher. Separate return of the packet and the postcard protected participant information anonymity.

Human Subjects Considerations

This study was eligible for exemption under 45 CFR 46.101 (b) (2). The research involved only the use of survey procedures, and did not involve children. The information was collected and recorded in such a manner that human subjects involved could not be identified by the researcher either directly or through identifiers linked to the participants. There were no specific benefits to the participants beyond contribution to knowledge development surrounding the research topics. Risks to study subjects were minimal, though self awareness of depressed mood was possible. Participants were provided a contact number for the researcher, in the event of questions. Approval was obtained from the Institutional Review Board of Grand Valley State University (Appendix J) as well as the four health care institutions (Appendix K) involved in the study.

CHAPTER 4

DATA ANALYSIS

Analysis of data was executed using the Statistical Package for the Social Sciences (SPSS) for Windows 12.0. The research questions under examination were:

1. What is the relationship between resilience and selected demographic variables?
2. What is the relationship between resilience and depressive symptoms?
3. How does the existence of stressful life events affect the relationship between resilience and depression?

Participant Description

Data from the demographic questionnaire is summarized in Table 2. Participants were overwhelmingly white, non-Hispanic (91%), though other races were represented (Hispanic 3.8%, Black African American 3.2%, Asian 1.3%). This is a larger than expected percentage of white participants, yet it is probably reflective of women employed in health care of the required age range. Eighty-two percent were married and living with their partners. College graduates comprised 45% of the study sample, with an additional 33% having achieved 1 to 4 years of college, and 14% working toward or having completed a graduate degree. Full-time employment occupied 23% of the participants; the remainder worked part-time. (Note: Participants were selected from the

Human Resources lists of acute care hospitals, so all were employed). Only 11% of the women's partners were not employed.

Table 2

Study Participant Description

Variable	n	(%)	Variable	n	%
Marital status			Race		
Not married, lives alone	4	(2.5)	White, non-Hispanic	143	(91.1)
Not married, with partner	3	(1.9)	Hispanic	6	(3.8)
Not married, with others	8	(5.1)	Asian	2	(1.3)
Married, with partner	129	(82.2)	Black, African American	5	(3.2)
Separated or divorced	11	(7.0)	Other	1	(0.6)
Widowed	1	(0.6)			
Education					
High school/GED	14	(8.9)			
1-2 years of college	40	(25.5)			
3-4 years of college	11	(7.0)			
College graduate	70	(44.6)			
Graduate school, no degree	6	(3.8)			
Graduate degree	16	(10.2)			
Work status			Partner's work status		
Mother and part-time	29	(18.5)	Unemployed	17	(10.8)
Full-time	36	(22.9)	Full-time	113	(72.0)
Part-time	91	(58.0)	Part-time	5	(3.2)

Tables 3 and 4 summarize elements of the personal profile that were more subjective in content. Fifteen percent claimed conflict or disagreement in their living situation. Eighty-two percent reported adequate financial resources as being available to them in the last month. It is interesting to note that 32% reported previous treatment for depression. Most women reported good-excellent health (91%). None of the participants described their health as "poor." The majority of respondents identified themselves in some phase of menopause, although 41% were not yet experiencing identifiable symptoms.

Table 3

Study Participant Perceptions

Group	n	%	Group	n	%
Conflict/disagreement			Sleep		
No	132	(84.1)	Adequate	107	(68.2)
Yes	23	(14.6)	Not adequate	50	(31.8)
Health status			Menopausal status		
Poor	0		Pre-menopausal	64	(40.8)
Fair	13	(8.3)	Peri-menopausal	32	(20.4)
Good	48	(30.6)	Surgical menopause	26	(16.6)
Very good	65	(41.4)	Post-menopausal	33	(21.0)
Excellent	30	(19.1)			
Treated for depression			Financial resources		
No	107	(68.2)	Adequate	128	(81.5)
Yes	50	(31.8)	Not adequate	29	(18.5)

Table 4

Age and Menopausal Status per Self Report

Status	n	Age		
		M	(SD)	Range
Pre-menopausal	64	42.17	(5.06)	35-54
Perimenopausal	32	48.47	(4.12)	37-55
Surgical menopause	26	48.38	(4.72)	41-55
Postmenopausal	33	52.03	(3.21)	43-55

Resilience and Demographic Variables

As measured by the total Polk Resilience Patterns Scale score (range 53-120), the mean resilience in the sample of women was 95.62 (SD = 14.30), indicating a high level of resilience overall. Table 5 describes values for the resilience subscales and their components. Note that negatively-worded items are reverse scored and indicated by asterixes. The items of the PRPS with the highest mean values were: "I wonder why I exist" (reverse scored), "I feel my life doesn't have a purpose" (reverse scored), "My life feels empty" (reverse scored), "I don't really like myself" (reverse scored), and "I can talk openly with at least one other person."

The first research question centered on the relationship of resilience to selected demographic variables. Since the distributions of resilience, life events, and depressive symptoms were not normal, non-parametric procedures were utilized throughout this analysis. Analysis of group differences was therefore completed using the Kruskal-Wallis (H) and Mann Whitney U statistical procedures. Within the marital status categories, the

highest mean was in "married, lives with partner" (Table 6). The lowest was in "not married, lives alone." However, no significant difference between marital status groups was found. The same is true for the personal profile data on work status and partner's employment. The investigation of the relationship of race to resilience did not yield clear relationships, especially with a sample that was overwhelmingly white, non-Hispanic. Less clear is the impact of education. All participants had completed high school or earned a GED. The Kruskal Wallis statistic (19.423, $p = .002$) indicated a significant difference between at least some of the groups. Further analysis using the Mann Whitney U identified the groups that were significantly different (Table 7). It appears that there is some increase in resilience to the individual obtaining college education, but also that being in graduate school does not affect resilience positively until the degree is actually achieved. Note that many of the participants were likely nurses, with defined levels of educational preparation at an associate degree or bachelor degree.

The score of resilience steadily increased as self-reported health improved (Table 8). Mann Whitney U comparisons demonstrated statistical significance in all comparisons except that between "very good" and "excellent" health. Greater resilience was evident in participants who perceived no conflict in their living environments and with those who reported adequate financial resources for the last month. Sleep adequacy had no statistically evident relationship to resilience. Resilience was fairly constant in each menopausal status group, and though lower in the post-menopausal group, this was not a statistically significant difference. It is possible that there are age factors confusing the picture.

Table 5

Description of Resilience Components

Pattern and Component	n	M	(SD)	Mdn	Mode
Dispositional (PRPS – Dis)					
Don't really like myself*	157	5.25	(0.93)	6.00	6
Feel like I am at least as smart	157	4.67	(1.31)	5.00	6
Feel anything is possible	155	4.43	(1.36)	5.00	6
Don't have a lot of confidence*	154	4.43	(1.21)	4.50	4
Feel good about myself	154	4.37	(1.19)	4.00	5
Situational (PRPS – Sit)					
Give up easily*	153	4.94	(0.91)	5.00	5
Decide on plan & follow through	153	4.65	(0.96)	5.00	5
Not very good at setting goals*	154	4.43	(1.22)	5.00	5
Can keep focus during crisis	156	4.40	(1.22)	5.00	5
Work on changing a situation	157	4.28	(1.21)	4.00	3
Relational (PRPS – Rel)					
Can talk openly with one person	156	5.17	(1.20)	6.00	6
Someone to help with a problem	154	5.05	(1.17)	5.00	6
Family is there for me	157	4.87	(1.40)	5.00	6
Friends are available	156	4.71	(1.38)	5.00	6
Hard for me to ask for help*	157	3.88	(1.31)	4.00	4

Table 5 (continued)

Description of Resilience Components

Pattern and Component	n	M	(SD)	Mdn	Mode
Philosophical (PRPS – Phil)					
Wonder why I exist*	157	5.46	(0.98)	6.00	6
Feel life doesn't have a purpose*	157	5.37	(0.98)	6.00	6
My life feels empty*	157	5.37	(0.94)	6.00	6
Look forward to the future	154	4.79	(1.20)	5.00	6
My life is fulfilling	157	4.54	(1.28)	5.00	5

*reverse scored

Table 6

Demographic Variables and Resilience Total Scores

Group	M (SD)	Statistic	Significance
Marital status		2.463	.782
Not married, lives alone	86.25 (22.29)		
Not married, lives with partner	88.00 (17.44)		
Not married, lives with others	93.00 (15.79)		
Married, lives with partner	95.67 (14.17)		
Separated, divorced	92.73 (16.77)		

Table 6 (continued)

Demographic Variables and Resilience Total Scores

Group	M (SD)	Statistic	Significance
Education		19.423	.002
High school, GED	81.86 (16.02)		
1-2 years college	93.21 (15.65)		
3-4 years college	100.09 (10.53)		
College graduate	95.35 (13.14)		
Graduate school, no degree	95.67 (17.15)		
Graduate degree	105.50 (9.08)		
Work status		1.635	.442
Part-time and mother	96.76 (14.11)		
Full-time	96.09 (16.00)		
Part-time	94.06 (14.34)		
Partner employment		3.850	.146
Unemployed	89.73 (13.32)		
Part-time	97.80 (10.04)		
Full-time	96.57 (14.34)		
Race		.433	.980
White, non-Hispanic	94.46 (14.79)		
Hispanic	92.67 (15.21)		
Black, African American	96.60 (15.34)		
Asian	99.00 (7.07)		

Table 7

Resilience: Significance Levels for Educational Level

	1-2 years College	3-4 years College	College Graduate	Graduate School	Graduate Degree
High School/GED	.031*	.007**	.004**	.153	.000**
1-2 years College		.251	.582	.858	.005**
3-4 years College			.342	.591	.318
College Graduate				.921	.004**
Graduate School					.231

* $p < .05$, ** $p < .01$

Table 8

Personal Profile Perceptions and Resilience

Group	M (SD)	Statistic	Significance
Health status		19.194	.000
Fair	79.23 (18.56)		
Good	91.15 (14.24)		
Very good	98.55 (12.54)		
Excellent	100.37 (11.36)		
Conflict		10.409	.001
No	96.84 (13.22)		
Yes	84.38 (16.65)		
Financial resources		16.035	.000
Adequate	97.63 (12.67)		
Not adequate	83.07 (16.89)		

Table 8

Personal Profile Perceptions and Resilience (continued)

Group	M (SD)	Statistic	Significance
Sleep		.432	.511
Adequate	93.24 (15.95)		
Not adequate	95.75 (13.99)		
Menopausal status		4.529	.210
Pre-menopausal	96.09 (13.73)		
Perimenopausal	95.81 (13.98)		
Surgical menopause	97.13 (16.59)		
Post-menopausal	90.63 (15.33)		

Resilience and Depressive Symptoms

The second research question centered on the relationship between resilience and depressive symptoms. Twenty-four percent (n = 36) of the women screened positive for depressive symptoms, with scores greater than or equal to 16 on the CES-D. An expected skew to the right was evident in the distribution of the total CES-D scores, as it was anticipated that most study participants would not have high levels of depressive symptoms. Thus, non-parametric statistics (Spearman's rho) were computed for the correlation of these two variables. Correlations were analyzed between the total PRPS score and the CES-D, and each subscale of the PRPS and the CES-D. The results are summarized in Table 9.

Table 9

Correlations Between Resilience and Depressive Symptoms

Variable	Correlation with CES-D	*p*
Total PRPS (PRPS- Tot)	- 0.632	.000
PRPS - Phil	- 0.612	.000
PRPS - Dis	- 0.547	.000
PRPS - Rel	- 0.492	.000
PRPS - Sit	- 0.452	.000

The overall correlation statistic between depressive symptoms and resilience was measured in this study as rho = – 0.632. Participants who were more resilient were less likely to report depressive symptoms. Breaking this down further, the strongest inverse relationship was with the philosophical subscale of the PRPS, followed by the dispositional, the relational, and then the situational subscales.

Effect of Stressful Life Events

As mentioned above, the Spearman's rho correlation coefficient between the measurement of depressive symptoms (CES-D) and resilience (PRPS-Tot) was – 0.632. Table 10 illustrates the Spearman coefficients among the major study variables. These suggest that positive events are not related to either depressive symptoms or resilience. To analyze the effect of life events on the relationship between resilience and depressive symptoms, a regression analysis was performed. These results must be taken with caution, given the non-normal pattern of distribution of the variables.

Table 10

Spearman Correlation Coefficients Among Major Study Variables

	CES-D (*p*)	PRPS Tot (*p*)
LEQ total (LEQ-Tot)	0.411 (.000)	-0.219 (.006)
LEQ positive events (LEQ-Pos)	0.025 (.759)	0.116 (.153)
LEQ negative events (LEQ-Neg)	0.582 (.000)	-0.398 (.000)
CES-D	___	-0.632 (.000)

With depressive symptoms as measured by the CES-D used as the dependent variable, resilience (PRPS-Tot) and life events (LEQ Tot) were entered into the regression analysis. The data are summarized in Table 11. The expression for the equation of best fit, based on total scores, was: CES-D = 49.274 - .446 (PRPS Tot) + .192 (LEQ Tot). The R^2 for the model was .533; thus the model explained 53% of the variance in CES-D Scores.

Table 11

Regression Analysis of Contributors to Depressive Symptoms

Variable	B	t	Sig
Constant	49.274	11.426	.000
LEQ- Tot	.192	3.999	.000
PRPS-Tot	- .446	- 10.735	.000

Dependent variable: Total CES-D score
$R^2 = .533$
$F_{(2,143)} = 81.543$, sig = .000

Entry of subscale scores in the regression analysis allows further illustration of the relationship between the variables (Table 12).

Table 12

Regression Analysis of Subscales and Depressive Symptoms

Variable	B	t	Sig
Constant	48.637	10.842	.000
LEQ- Neg	0.367	4.773	.000
LEQ - Pos	0.035	.522	.603
PRPS- Dis	-0.107	- .555	.580
PRPS- Sit	-0.377	- 2.046	.043
PRPS- Rel	0.090	.630	.530
PRPS- Phil	-1.281	- 6.344	.000

Dependent variable: Total CES-D Score
$R^2 = .637$
$F_{(6,139)} = 40.706$, sig = .000

In the final model (after removing non-significant items), independent variables retained were the LEQ-Neg, the PRPS-Sit, and the PRPS-Phil subscales. These elements explained 64% ($R^2 = .635$) of the variance in the CES-D. The overall relationship was defined in this study as: CES-D = 49.238 + .367 (LEQ-Neg) – .394 (PRPS-Sit) – 1.289 (PRPS-Phil). Thus, depressive symptoms scores were explained by more negative life event scores and lower philosophical and situational scores.

Other Findings of Interest.

Because depressive symptoms have been connected to various combinations of demographic variables throughout the literature, possible relationships among CES-D scores and data from the participants' personal profile were explored. The results of the relationships between depressive symptoms and demographic variables are presented below (Table 13). None of these variables displayed significant relationships to depressive symptoms using the Kruskal Wallis test procedures. The possible range of scores on the CES-D screening is from 0-60. A score that is equal to or greater than 16 is recommended for further follow-up for assessment of possible depression. Regarding marital status, married participants had the lowest mean, and the highest mean score was in the "not married, lives alone" group. However, statistical analysis of the categories revealed no significant difference between marital categories. There was no clear relationship between participant or partner's employment and depressive symptoms on the CES-D (note: all participants were employed, by the nature of the sample selection process). In contrast to the findings from analysis of the resilience data, level of education was not significantly related to depressive symptoms. Interestingly, there appeared to be participants who were involved in graduate study who experienced more difficulty. Aligned with the literature, the occurrence of depressive symptoms was similar across races, although again it should be noted that 91% of the study participants were white and non-Hispanic.

Table 13

Depressive Symptoms (CES-D) and Demographic Variables

Group	M (SD)	Statistic	Sig
Marital Status		6.936	0.225
Not married, lives alone	16.75 (13.20)		
Not married, lives with partner	15.33 (13.65)		
Not married, lives with others	13.75 (12.66)		
Married, lives with partner	9.26 (8.65)		
Separated, divorced	14.55 (17.27)		
Education		9.076	0.106
High School, GED	16.27 (15.70)		
1-2 years of college	10.14 (9.39)		
3-4 years of college	9.20 (8.51)		
College Graduate	10.48 (9.34)		
Graduate school, no degree	14.67 (16.16)		
Graduate degree	5.00 (5.49)		
Employment		3.126	0.373
Part-time and mother	9.14 (11.81)		
Full-time	9.16 (8.68)		
Part-time	11.15 (9.97)		

Table 13 (continued)

Depressive Symptoms (CES-D) and Demographic Variables

Group	M (SD)	Statistic	Sig
Partner Employment		5.471	0.065
Unemployed	12.33 (7.12)		
Part-time	4.40 (3.58)		
Full-time	9.17 (8.96)		
Race		1.529	0.821
White, non-Hispanic	10.24 (10.19)		
Hispanic	12.00 (11.73)		
Black, African American	11.20 (6.50)		

In addition to exploring the CES-D scores among categories of demographic variables, they were also compared among various participant perception categories (Table 14). First, it was found that the CES-D scores were significantly different between those who perceived conflict or disagreement in their living situation, versus those without this perception. Perceptions of having adequate financial resources within the last month were associated with significantly lower CES-D mean scores than those with perceptions of having money concerns. Those who reported adequate sleep also reported significantly fewer depressive symptoms. Study results supported the literature in that depression scores on the CES-D were not clearly related to the menopausal status reported by respondents.

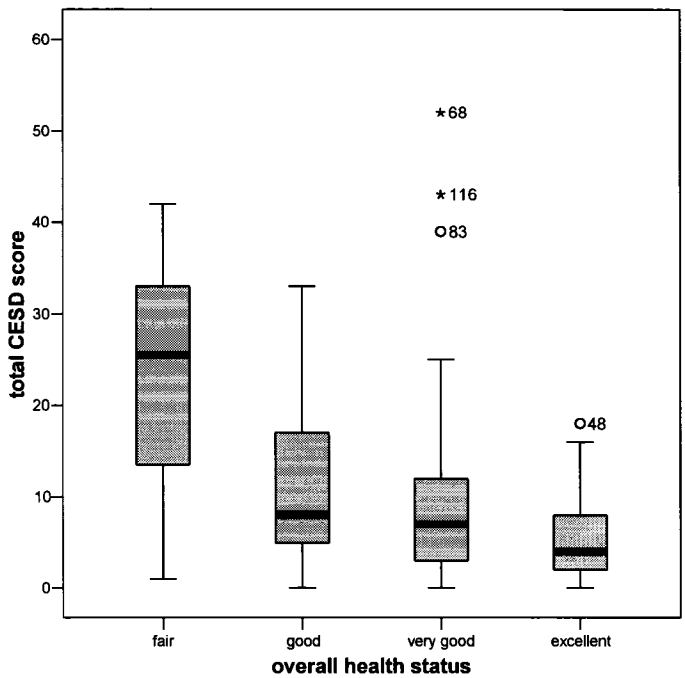
Table 14

Differences Among Participant Perceptions and CES-D Scores

Group	CES-D Mean (SD)	Statistic	Sig
Conflict		-3.036	0.002**
No	9.07 (8.91)		
Yes	16.76 (12.78)		
Health		19.614	0.000**
Fair	23.08 (12.97)		
Good	11.17 (8.92)		
Very good	9.40 (10.19)		
Excellent	5.66 (4.71)		
Financial resources		-4.100	0.000**
Adequate	8.54 (8.33)		
Not adequate	18.33 (13.05)		
Sleep		-3.374	0.001**
Adequate	8.27 (8.13)		
Not adequate	14.74 (12.27)		
Menopausal status		3.457	0.326
Pre-menopausal	9.79 (10.53)		
Peri-menopausal	11.19 (9.73)		
Surgical menopause	9.48 (11.03)		
Post-menopausal	11.11 (9.10)		

Consistent with the literature, better perceived health was associated with fewer depressive symptoms (Figure 3). Breaking this down further, those who perceived their health to be " fair" reported more depressive symptoms than those who rated their health as good, very good, or excellent. CES-D scores also were significantly different between those rating their health as "good" and those rating it as "excellent." No significant

Figure 3. Health and Depressive Symptoms.



difference was discerned between the CES-D scores of those rating their health as "good" as compared to those with "very good" health, or those rating it as "very good" as compared to those rating their health as "excellent."

In examining the data on life events, the six positive events reported most frequently by participants were: took a vacation (n = 81), took on a moderate purchase (n = 51), made new friends (n = 36), change in work responsibilities (n = 33), took a trip other than a vacation (n = 31), and the gain of a new family member (n = 30). The most

frequently reported life events judged to be negative included: troubles at work with employer or co-workers (n = 51), a major change in the health or behavior of a family member or close friend (n = 48), a major change in finances (n = 35), parenting conflicts (n = 24), death of a family member or close friend (n = 24), and a major change in the usual type and/or amount of recreation (n = 24). These events are consistent with the age of the subjects who participated.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the relationship between resilience and depressive symptoms in midlife women. One finding of note was that the reported prevalence of depression, as indicated by the self-report of "treatment for depression" in this sample was 32%. CES-D scores of the study participants suggested that 24% of the women met the screening criterion of a score of 16 or greater on the CES-D, indicating they should be further evaluated for a diagnosis of depression. These results support previous studies which identify depression as a major health concern for midlife women (Bromberger et al., 2001; Jones Webb & Snowden, 1993; Kessler et al., 1994).

The first research question centered on the relationship of resilience and demographic variables. Resilience, defined as a personal quality composed of dispositional, relational, situational, and philosophical patterns which a woman employs in interaction with her environment, was scored on the PRPS at a mean level of 95.62 (range 53-120) in the study group, suggesting an overall high level of resilience. Each subscale (dispositional, situational, philosophical, relational) contributed fairly equally to the total resilience score, but the most frequently reported factors were those within the philosophical and relational realms.

Important aspects of resilience in this sample of mid-life women are (a) a sense of self understanding, a belief that knowledge is valuable, and that lives are worthwhile

(philosophical pattern), (b) personal competence and a sense of self (dispositional pattern), (c) intimate or close confiding relationships and a broader social network (relational pattern), and (d) cognitive appraisal skills, problem-solving ability, and a capacity for action in a situation (situational pattern). Resilience in this study was related to perceived good health, perceived absence of conflict in the living situation, adequate financial resources, and higher levels of education. Resilience was not related to marital status, employment status, partner's employment status, sleep adequacy, race, or menopausal status.

The second research question focused on the relationship between resilience and depressive symptoms. According to the results of this study, a significant inverse relationship exists between resilience and depressive symptoms (rho = - 0.632). Each subscale of the resilience instrument (philosophical, dispositional, relational, and situational) also displayed a significant negative relationship with the CES-D.

The third research question explored the effect of stressful life events in the relationship between resilience and depressive symptoms. Although both resilience (PRPS – Tot) and stressful life events (LEQ – Tot) were retained in a regression model with depressive symptoms (CES-D) as the dependent variable, further analysis of the subscales yielded more specific information. Reflected in the final regression model in this study were the LEQ - Neg, the PRPS - Sit, and the PRPS - Phil. These subscales explained 64% of the variance in scores on the CES-D. The LEQ – Pos, the PRPS – Rel and the PRPS –Dis were deleted from the final model.

The last investigation, into the relationship of depressive symptoms and demographic variables, illustrated a relationship between the CES-D and lower perceived

health status, perceived conflict in the living situation, inadequate financial resources, and inadequate sleep. Education, employment status, partner's employment status, race, or menopausal status were not related to depressive symptoms for these participants.

In describing resilience and depressive symptoms in these mid-life women, health, conflict in the living situation, and adequacy of financial resources are common themes. With resilience, continuing one's education promoted attainment of greater levels of this capability; whereas with depressive symptoms, sleep inadequacy was an additional related factor. There was a strong inverse relationship between depressive symptoms and resilience, especially within the situational and philosophical patterns of resilience. Negative life events (but not positive life events) also contributed to the presence of depressive symptoms in mid-life women.

Possible reasons for the outcomes of this study include that all study participants were working in what might be deemed to be secure jobs in healthcare facilities. The geographic area is considered fairly conservative with many religious organizational supports, which may have influenced the strength of the contribution of the philosophical resilience subscale. It is also possible that resilience and depressive symptoms are "formed" by the same contributing factors, and thus appear closely related.

In this study, resilience is conceptualized within the Normal Line of Defense (NLD) in Neuman's Systems Model (NSM). The NLD is defined as a range of responses to the environment, developed as the woman copes with diverse stress encounters, whether positive or negative. It is a dynamic state that can change over time, and is determined by five client variables: physiological, psychological, sociocultural, developmental, and spiritual factors. Midlife women in this study with lower levels of

resilience as measured by the PRPS were more likely to report depressive symptoms as appraised by the CES-D. This aligns with Neuman's conceptual illustration of symptoms (depressive) occurring as the Normal Line of Defense (resilience) is penetrated by stressors (life events). Of particular note with this study is the observation that positive life events, though allied with stressors conceptually in Neuman's model, did not correlate with the existence/reports of depressive symptoms (penetration of the NLD) in these participants. Thus, based on this study, including life events or occurrences that are perceived by the women as "positive" does not appear to be relevant to the model.

Many elements of the PRPS translate logically to the variables in the lines of defense and resistance in Neuman's Model. For example, the relational subscale of the PRPS reflects the sociocultural variable in NLD. The philosophical subscale is similar to Neumans' spiritual variable. Less clear are the correlates for situational and dispositional subscales. Reviewing the descriptors from the Polk instrument, these latter subscales are most closely aligned with the psychological variables in the NSM, as they are concerned with mental processes. More problematic is the resilience match for Neuman's developmental variable, which is not specifically reflected in the Polk resilience measurement. However, this study examined resilience in the mid-life developmental stage of women, and suggests that the spiritual (philosophical) and psychological (situational) factors were related to the occurrence of depressive symptoms.

As nursing looks to assist mid-life women in dealing with life stressor encounters, Neuman's call for an "understanding of the influence of prevention interventions on the relation between stressors and client-system stability" (Neuman & Fawcett, 2002, p. 117)

is essential in order to augment the Normal Line of Defense and ward off depressive symptoms.

Implications

Healthy People 2010 identifies depression as a leading health indicator and a national priority. Le, Munoz, Ippen, and Stoddard (2003) comment that "there is at least as much to be learned by the systematic study of how to prevent the onset of depression as we have learned from learning how to treat depression" (p. 5), and, "given that women are twice as likely to experience clinical depression as men, the next major challenge for the mental health field is the development and implementation of interventions that will prevent the onset of mental disorders among females across the lifespan" (p. 8).

Nursing Practice

Within practice, nurses need to recognize the incidence of depression among women, and the impact of depression on women's lives. After identifying women with high stressors and/or characteristics that indicate a low resilience reserve, nurses could assist these women to modify the stressors or to build their resilience capabilities. Jacelon (1997) states, "If methods were developed to assess client resilience and interventions were developed to improve resilience, nurses could then foster resilience in people before illness occurred, then focus interventions on bolstering the client's resilience during crisis" (p.128). Nurses could utilize the Polk Resilience Pattern Scale, which is only 20 items long, to quickly assess their clients' capabilities. Working within the framework described by Polk, it would be possible to identify, implement, and evaluate the effectiveness of interventions directed at the philosophical, relational, situational, and dispositional patterns. Polk (2000) identifies some of these possibilities:

interventions to build feelings of self-esteem and self-efficacy to enhance the dispositional pattern, mentorship and support group programs to support the relational pattern, problem-solving skills and proactive strategies to support the situational pattern, and spiritual support to bolster the philosophical pattern. The latter may involve praying with clients, providing a time and space for attending to spiritual and reflective endeavors, actively being "present" with clients, and assisting them to verbalize the meaning of a situation to them in the context of their lives.

Within the framework of the standardized language of the Iowa Intervention Project (McCloskey & Bulechek, 2000), the Nursing Intervention Classifications (NICs) of "Spiritual Growth Facilitation" (philosophical pattern), "Hope Instillation" (all patterns), "Socialization Enhancement" (relational pattern), "Support System Enhancement" (relational pattern), "Values Clarification" (situational pattern), and "Self Awareness Enhancement" (dispositional pattern) should be considered for inclusion into client plans of care for women under stress or in preparation for mid-life events. The current NIC on "Resiliency Promotion" should be expanded beyond its youth focus to include interventions appropriate to other life cycle periods and challenges, such as returning to school, family conflict, financial stress, and diminished health.

Nursing Administration

In her 2005 study, Ruggiero identified a negative relationship between depression and job satisfaction in critical care registered nurses. A "striking and unexpected finding" in her study was that 41% of the nursing staff participants met the criteria for clinical depression at the time of the study (p. 261). Managers and directors must recognize that depression is a health concern for their staff, especially with the average

age of the practicing nurse in the mid-forties. Actions to be implemented could include an assessment of resilience using the Polk Resilience Patterns Scale and attention to components of resilience in coaching situations and annual reviews. Administrators could proactively structure the work environment to foster resilience through creation of quiet spaces, journal clubs focusing on philosophical issues, and administrative support of employee assistance programs and spiritual scaffolding (chaplain/staff interactions, scheduled in-facility chapel services). Buttressing the relational pattern could be accomplished through solid preceptor and mentoring programs, which could continue to increase self-efficacy throughout the career span of each nurse. Acknowledging the importance of continued professional development, but also the stresses encountered by participation in graduate study, dedicated support should be provided to staff engaged in pursuit of graduate education. Innovative approaches could include provision of flexible scheduling, manuscript preparation support, or librarian reference retrieval assistance.

Nursing Education

Within educational programs, students should practice assessment of components of resilience in their clients, and analyze the impact of their findings in relationship to chosen interventions in primary, secondary, or tertiary care environments. Polk (2000) suggests that students focus on answering the question, "How can I make a difference in this client's patterns of resilience, and how will that affect the client's overall pattern of health?" (p. 156). Staff development programs could be formulated around an understanding of resilience for personal application as well as to clients in the clinical setting. Employing methods for staff programs that align with the patterns of resilience might include problem-solving exercises to increase efficacy in adoption of new

knowledge and practices, identifying specific support systems for new procedures, providing feedback mechanisms for bolstering efficacy in new aspects of care, developing programs that keep nurses in close proximity with their intimate support systems (such as computer-based inservices accessed from home), and articulating clearly the placement or connection of changes within the value system of nursing care. Creative programs for continuing to cultivate a sense of efficacy and life meaning through a nursing career should be encouraged, such as sabbaticals.

Limitations

Although random sampling among mid-life women in the health care institutions was implemented, several limitations are present in this study. The participants were overwhelmingly white and not of Hispanic heritage. Data were gathered only by means of self-report instruments and only at one point in time. One of the tools employed was a new measure of resilience (Polk Resilience Patterns Scale). The results indicated the presence of a relationship between resilience and depressive symptoms, but the association cannot indicate causal significance. The components of resilience, as evidenced by the Polk instrument or as "lived" by the women in this study, may not be indicative of resilience in other parts of the world, or among other cultures.

Future Research

This study supported the inverse relationship of resilience to the presence of depressive symptoms in mid-life women. Further investigation of interventions to operationalize the philosophical and situational patterns of resilience should be implemented, especially in relationship to life cycle patterns. Additionally, the impact of these resilience-directed interventions on actual outcomes should be investigated. For

example, does preventive coaching in annual physical exams affect the development of depressive symptoms in mid-life women? Would professional goals or value clarification discussions in annual performance appraisals increase staff resilience and nurse retention? Should a period of poorer health arise, would problem-solving algorithms and/or journalling forestall potential depressive symptoms?

Evidence supporting the "trait" or "state" characteristic of resilience cannot be extricated using a "one-point in time" data collection method as utilized here. Replication of this study in a longitudinal application would add to the understanding of the stability of resilience. Studies in different age groups and populations should be undertaken to more fully understand how resilience varies among groups or within different phases of life, as well as whether the Polk model encompasses all relevant aspects of the concept.

Conclusion

Resilience may be more prevalent than we surmise. Promoting resilience as "ordinary magic," Masten (2001) advises that

> attention to human capabilities and adaptive systems that promote healthy development and functioning have the potential to inform policy and programs that foster competence and human capital and aim to improve the health of communities and nations while also preventing problems (p. 235).

Nursing, with its unique role in assisting clients to adapt to actual or potential health problems, can contribute to its social imperative by applying concepts of resilience in all client encounters.

APPENDICES

APPENDIX A

Letter of Permission to Use Neuman Model Figure

Appendix A

Permission is granted for Keverne Lehman, Grand Valley State University Masters of Science in Nursing Candidate, to use the proposed illustration of the Neuman Systems Model in her thesis on "Resilience and Depressive Symptoms in Mid-Life Women."

Signature [redacted]

Date 1/27/07

APPENDIX B

Personal Profile

Appendix B

Personal Profile

Please complete the following information:

1. What is your age? _____

2. Which choice best describes you?
   - ☐ Not married, live alone
   - ☐ Not married, live with partner
   - ☐ Not married, live with others (roommate, children)
   - ☐ Married, live with partner
   - ☐ Separated or divorced
   - ☐ Widowed

3. Would you say that in your living situation there is much conflict or disagreement between the people?
   - ☐ Yes
   - ☐ No

4. Please rate your overall health status by circling a number below:

1	2	3	4	5
Poor health	Fair health	Good health	Very Good health	Excellent health

5. Have you ever been treated for depression?
   - ☐ Yes
   - ☐ No
   - ☐ Don't know

6. Have you ever been prescribed medication for depression?
   - ☐ Yes
   - ☐ No
   - ☐ Don't know

7. Have your financial resources been adequate for your needs in the last month?
   - ☐ Yes
   - ☐ No

8. Which choice best describes your education?
   - ☐ Less than high school
   - ☐ High school graduate/GED
   - ☐ 1-2 years of college or technical degree
   - ☐ 3-4 years of college, no degree
   - ☐ College graduate
   - ☐ Graduate school, no degree
   - ☐ Graduate Degree

9. What is your birth date? (month/day/year) _____

10. What is your mother's birth date? (month/day) _____

11. Which ONE choice best describes your work?
   - ☐ Homemaker or full-time mother
   - ☐ Full-time mother but also employed part-time
   - ☐ Employed part-time
   - ☐ Employed full-time
   - ☐ Student part-time
   - ☐ Student full-time
   - ☐ Looking for work

12. If you are living with a partner, is he or she employed?
   - ☐ Yes, full-time
   - ☐ Yes, part-time
   - ☐ No

13. Would you say that you get adequate sleep?
   - ☐ Yes
   - ☐ No

14. Please indicate which best describes your race:
   - ☐ White, non-Hispanic
   - ☐ Hispanic
   - ☐ Asian
   - ☐ Black or African American
   - ☐ American Indian or Alaska Native
   - ☐ Native Hawaiian or Pacific Islander
   - ☐ Other _____

15. Which choice best describes you?
   - ☐ Pre-menopausal (menstrual period in the last 3 months & predictable pattern)
   - ☐ Peri-menopausal (period in the last 12 months, less predictable pattern)
   - ☐ Surgical menopause (hysterectomy)
   - ☐ Post-menopausal (no period in the last 12 months & no hysterectomy)

Thank you for your responses.

APPENDIX C

Life Events Questionnaire

Appendix C

Life Events Questionnaire (LEQ)

Description of the LEQ

The LEQ is an 82-item inventory-type questionnaire in which subjects mark the life events or changes which have occurred during the past year; indicate whether the event was considered "good" or "bad"; and rate the impact of the event on a 4-point scale.

The content of the life event list was drawn from a number of existing instruments. Nine additional items of particular relevance to women were added. Examples of previously omitted content areas include: "Major difficulties with birth control pills or devices," "Custody battles with former spouse or partner," and "Being a victim of a violent act such as rape or assault." (See the citation below for the list of these nine new items.) Additionally, wording changes to reduce gender bias were made in existing items.

Citations Describing the Development and Psychometric Testing of the Instrument

Norbeck, J.S. (1984). Modification of recent life event questionnaires for use with female respondents. *Research in Nursing and Health, 7*, 61-71.

As described in the RINAH article, the LEQ is a modification of existing instruments. In particular, the format and instructions come from Sarason et al.'s work, which should also be cited:

Sarason, I.G., Johnson, J.H., & Siegel, J.M. (1978). Assessing the impact of life changes: Development of the life experiences survey. *Journal of Consulting and Clinical Psychology, 46*, 932-946.

Scoring Instructions (from p. 65 of the RINAH article)

Three scores are obtained from the questionnaire:

(a) negative events score – the sum of the impact ratings for all items designated as "bad" by the respondent;
(b) positive events score – the sum of the impact ratings for all items designated as "good" by the respondent;
(c) total events score – the sum of the impact ratings for both "bad" and "good" events.

Additional scoring clarification: When subjects write in additional life events (items 80-82), these responses should be checked to see if they represent items already on the list (items 1-79). If so, the "other" response should be moved to the existing item and scored there. This prevents double scoring of the same event and allows for greater consistency in analyzing specific types or categories of events.

Permission to Use the LEQ

The LEQ is not copyrighted. By providing this copy of the LEQ, permission is implied for using it in research or clinical work.

LIFE EVENTS QUESTIONAIRE

Number_____
Date_____

Instructions

Listed below are a number of events, which may bring about changes in the lives of those who experience them.

Circle the events that have occurred in your life during the past year and circle whether these were Good or Bad.

Show how much the event affected your life by circling the appropriate number, which corresponds with the statement (0 = no effect, 1 = some effect, 2 = moderate effect, 3 = great effect).

If you have not experienced a particular event in the past year, leave it blank.

Please go through the entire list before you begin to get an idea of the type of event you will be asked to rate.

Event	Type of Effect		Effect of Event on Your Life			
A. HEALTH			No effect	Some effect	Moderate effect	Great effect
1. major personal illness or injury	Good	Bad	0	1	2	3
2. major change in eating habits	Good	Bad	0	1	2	3
3. major change in sleeping habits	Good	Bad	0	1	2	3
4. major change in usual type and/or amount of recreation	Good	Bad	0	1	2	3
5. major dental work	Good	Bad	0	1	2	3
6. (female) pregnancy	Good	Bad	0	1	2	3
7. (female) miscarriage or abortion	Good	Bad	0	1	2	3
8. (female) started menopause	Good	Bad	0	1	2	3
9. major difficulties with birth control pills or devices	Good	Bad	0	1	2	3
B. WORK			No effect	Some effect	Moderate effect	Great effect
10. difficulty finding a job	Good	Bad	0	1	2	3
11. beginning work outside the home	Good	Bad	0	1	2	3
12. changing to a new type of work	Good	Bad	0	1	2	3
13. changing your work hours or conditions	Good	Bad	0	1	2	3
14. change in your responsibilities at work	Good	Bad	0	1	2	3

Event	Type of Effect		Effect of Event on Your Life			
15. troubles at work with your employer or co-workers	Good	Bad	0	1	2	3
16. major business readjustment	Good	Bad	0	1	2	3
17. being fired or laid off from work	Good	Bad	0	1	2	3
18. retirement from work	Good	Bad	0	1	2	3
19. taking courses by mail or studying at home to help you in your work	Good	Bad	0	1	2	3
C. SCHOOL			No effect	Some effect	Moderate effect	Great effect
20. beginning or ceasing school, college, or training program	Good	Bad	0	1	2	3
21. change of school, college, or training program	Good	Bad	0	1	2	3
22. change in career goal or academic major	Good	Bad	0	1	2	3
23. problem in school, college , or training program	Good	Bad	0	1	2	3
D. RESIDENCE			No effect	Some effect	Moderate effect	Great effect
24. difficulty finding housing	Good	Bad	0	1	2	3
25. changing residence within the same town or city	Good	Bad	0	1	2	3
26. moving to a different town, city, state, or country	Good	Bad	0	1	2	3
27. major change in your life conditions (home improvements or a decline in your home or neighborhood)	Good	Bad	0	1	2	3
E. LOVE AND MARRIAGE			No effect	Some effect	Moderate effect	Great effect
28. began a new, close, personal relationship	Good	Bad	0	1	2	3
29. became engaged	Good	Bad	0	1	2	3
30. girlfriend or boyfriend problems	Good	Bad	0	1	2	3

Event	Type of Effect		Effect of Event on Your Life			
31. breaking up with a girlfriend or boyfriend or breaking an engagement	Good	Bad	0	1	2	3
32. (male) wife or girlfriend's pregnancy	Good	Bad	0	1	2	3
33. (male) wife or girlfriend having a miscarriage or abortion	Good	Bad	0	1	2	3
34. getting married (or beginning to live with someone)	Good	Bad	0	1	2	3
35. a change in closeness with your partner	Good	Bad	0	1	2	3
36. infidelity	Good	Bad	0	1	2	3
37. trouble with in-laws	Good	Bad	0	1	2	3
38. separation from spouse or partner due to conflict	Good	Bad	0	1	2	3
39. separation from spouse or partner due to work, travel, etc.	Good	Bad	0	1	2	3
40. reconciliation with spouse or partner	Good	Bad	0	1	2	3
41. divorce	Good	Bad	0	1	2	3
42. change in your spouse or partner's work outside the home (beginning work, ceasing work, changing jobs, retirement, etc.	Good	Bad	0	1	2	3
F. FAMILY AND CLOSE FRIENDS			No effect	Some effect	Moderate effect	Great effect
43. gain of a new family member (through birth, adoption, relative moving in, etc)	Good	Bad	0	1	2	3
44. child or family member leaving home (due to marriage, to attend college, or for some other reason)	Good	Bad	0	1	2	3
45. major change in the health or behavior of a family member or close friend (illness, accidents, drug or disciplinary problems, etc.)	Good	Bad	0	1	2	3
46. death of spouse or partner	Good	Bad	0	1	2	3
47. death of a child	Good	Bad	0	1	2	3

Event	Type of Effect		Effect of Event on Your Life			
48. death of family member or close friend	Good	Bad	0	1	2	3
49. birth of a grandchild	Good	Bad	0	1	2	3
50. change in marital status of your parents	Good	Bad	0	1	2	3
G. PARENTING			No effect	Some effect	Moderate effect	Great effect
51. change in child care arrangements	Good	Bad	0	1	2	3
52. conflicts with spouse or partner about parenting	Good	Bad	0	1	2	3
53. conflicts with child's grandparents (or other important person) about parenting	Good	Bad	0	1	2	3
54. taking on full responsibility for parenting as a single parent	Good	Bad	0	1	2	3
55. custody battles with former spouse or partner	Good	Bad	0	1	2	3
H. PERSONAL OR SOCIAL			No effect	Some effect	Moderate effect	Great effect
56. major personal achievement	Good	Bad	0	1	2	3
57. major decision regarding your immediate future	Good	Bad	0	1	2	3
58. change in your personal habits (your dress, life-style, hobbies, etc.)	Good	Bad	0	1	2	3
59. change in your religious beliefs	Good	Bad	0	1	2	3
60. change in your political beliefs	Good	Bad	0	1	2	3
61. loss or damage of personal property	Good	Bad	0	1	2	3
62. took a vacation	Good	Bad	0	1	2	3
63. took a trip other than a vacation	Good	Bad	0	1	2	3
64. change in family get-togethers	Good	Bad	0	1	2	3
65. change in your social activities (clubs, movies, visiting)	Good	Bad	0	1	2	3
66. made new friends	Good	Bad	0	1	2	3
67. broke up with a friend	Good	Bad	0	1	2	3
68. acquired or lost a pet	Good	Bad	0	1	2	3

Event	Type of Effect		Effect of Event on Your Life			
I. FINANCIAL			No effect	Some effect	Moderate effect	Great effect
69. major change in finances (increased or decreased income)	Good	Bad	0	1	2	3
70. took on a moderate purchase, such as TV, car, freezer, etc.	Good	Bad	0	1	2	3
71. took on a major purchase or a mortgage loan, such as a home, business, property, etc.	Good	Bad	0	1	2	3
72. experienced a foreclosure on a mortgage or loan	Good	Bad	0	1	2	3
73. credit rating difficulties	Good	Bad	0	1	2	3
J. CRIME AND LEGAL MATTERS			No effect	Some effect	Moderate effect	Great effect
74. being robbed or victim of identity theft	Good	Bad	0	1	2	3
75. being a victim of a violent act (rape, assault, etc.)	Good	Bad	0	1	2	3
76. involved in an accident	Good	Bad	0	1	2	3
77. involved in a law suit	Good	Bad	0	1	2	3
78. involved in a minor violation of the law (traffic tickets, disturbing the peace, etc)	Good	Bad	0	1	2	3
79. legal troubles resulting in your being arrested or held in jail	Good	Bad	0	1	2	3
K. OTHER- Other recent experiences which have had an impact on your life. List and rate.						
80. _____	Good	Bad	0	1	2	3
81. _____	Good	Bad	0	1	2	3
82. _____	Good	Bad	0	1	2	3

SAMPLE INSTRUCTION SUPPLEMENT

FOR OPTIONAL USE

SAMPLE PAGE

LIFE EVENTS QUESTIONAIRE

Event	Type of Effect		Effect of Event on Your Life			
A) HEALTH			No effect	Some effect	Moderate effect	Great effect
1. major personal illness	Good	Bad	0	1	2	3
(2.) major surgery	Good	(Bad)	0	1	(2)	3
3. major change in eating habits	Good	Bad	0	1	2	3
4. major change in sleeping habits	Good	Bad	0	1	2	3
(5.) changed doctors	(Good)	Bad	(0)	1	2	3
6. major dental work	Good	Bad	0	1	2	3

Explanation:

In this example, the person had experienced two of the events listed. She circled the events that had happened and whether each one was a good or a bad event. Then she circled the number that showed how much effect the event had on her life.

For this person, having major surgery was a bad event, and it had a moderate effect on her life.

The other event that had happened, changing doctors, was a good event, but it had no effect on her life.

None of the other events had happened during the past year, so she left them blank.

APPENDIX D

Center for Epidemiologic Studies Depression Scale

Appendix D

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

	During the past week			
	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	☐	☐	☐	☐
2. I did not feel like eating; my appetite was poor.	☐	☐	☐	☐
3. I felt that I could not shake off the blues even with help from my family or friends.	☐	☐	☐	☐
4. I felt I was just as good as other people.	☐	☐	☐	☐
5. I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
6. I felt depressed.	☐	☐	☐	☐
7. I felt that everything I did was an effort.	☐	☐	☐	☐
8. I felt hopeful about the future.	☐	☐	☐	☐
9. I thought my life had been a failure.	☐	☐	☐	☐
10. I felt fearful.	☐	☐	☐	☐
11. My sleep was restless.	☐	☐	☐	☐
12. I was happy.	☐	☐	☐	☐
13. I talked less than ususal.	☐	☐	☐	☐
14. I felt lonely.	☐	☐	☐	☐
15. People were unfriendly.	☐	☐	☐	☐
16. I enjoyed life.	☐	☐	☐	☐
17. I had crying spells.	☐	☐	☐	☐
18. I felt sad.	☐	☐	☐	☐
19. I felt that people dislike me.	☐	☐	☐	☐
20. I could not "get going".	☐	☐	☐	☐

APPENDIX E

Polk Resilience Patterns Scale

Appendix E

Polk Resilience Patterns Scale

Over time people develop certain ways of acting, thinking, and feeling that influence how they will respond when facing a problem. Below is a series of statements that describe various ways of acting, thinking, and feeling. Please read each statement and decide how often in your life each statement applies to you. Describe how often these statements really apply to you, not how often you would like them to apply to you. There are no right or wrong answers; we all have different ways of acting, thinking, and feeling. Please mark each statement with only one answer.

How often do the following statements apply to you?

Circle one number for each statement. The numbers refer to:

Almost Never	Seldom	Sometimes	Fairly Often	Very Often	Almost Always
1	2	3	4	5	6

1	I try to decide on a plan and follow through with it	1	2	3	4	5	6
2	There is someone I could turn to for help with a problem	1	2	3	4	5	6
3	I give up easily	1	2	3	4	5	6
4	I feel good about myself	1	2	3	4	5	6
5	I look forward to the future	1	2	3	4	5	6
6	I'm not very good at setting goals for myself	1	2	3	4	5	6
7	I don't have a lot of confidence in myself	1	2	3	4	5	6

PLEASE CONTINUE

How often do the following statements apply to you?

Circle one number for each statement. The numbers refer to:

Almost Never	Seldom	Sometimes	Fairly Often	Very Often	Almost Always
1	2	3	4	5	6

8	My friends are available to me when I need to talk	1	2	3	4	5	6
9	When a crisis occurs I can keep my focus	1	2	3	4	5	6
10	I wonder why I even exist	1	2	3	4	5	6
11	I work on changing a situation, not just sit back and accept it	1	2	3	4	5	6
12	I feel like my life doesn't have a purpose	1	2	3	4	5	6
13	My family is there for me when I have a problem	1	2	3	4	5	6
14	I don't really like myself	1	2	3	4	5	6
15	My life is very fulfilling	1	2	3	4	5	6
16	I can talk openly with at least one other person I care about	1	2	3	4	5	6
17	I feel like I am at least as smart as the next person	1	2	3	4	5	6
18	My life feels empty	1	2	3	4	5	6
19	It is hard for me to ask for help when I need it	1	2	3	4	5	6
20	I think anything is possible if I believe in myself	1	2	3	4	5	6

THANK YOU FOR YOUR TIME

Scoring of the Polk Resilience Patterns Scale (PRPS)

The PRPS is a 20 item self report questionnaire consisting of 4 subscales: the dispositional pattern, situational pattern, relational pattern, and philosophical pattern. The possible range of scores on the total PRPS is 20-120, while the range of scores for each of the subscales is 5-30. The instrument is scored using a 6 point Likert format. Response choices include 1=almost never, 2=seldom, 3=sometimes, 4=fairly often, 5=very often, and 6=almost always. This response format is consistent with the theoretical model of resilience which states that resilience is a pattern of thought and behavior that develops over time through human/environment interaction. By having subjects respond to time anchors the researcher can gain a sense of how frequently an item contributes to a subject's pattern of resilience. A high score on the PRPS indicates a higher level of resilience and a low score on the PRPS indicates a lower level of resilience.

Items 4, 7, 14, 17, and 20 comprise the dispositional subscale.

Items 1, 3, 6, 9, and 11 comprise the situational subscale.

Items 2, 8, 13, 16, and 19 comprise the relational subscale.

Items 5, 10, 12, 15, and 18 comprise the philosophical subscale.

Items 3, 6, 7, 10, 12, 14, 18, and 19 must be reverse scored.

APPENDIX F

Permission to Use Polk Resilience Patterns Scale

Appendix F

July 11, 2005

Dear Ms Lehman:

I am happy to give you permission to use the Polk Resilience Patterns Scale (PRPS) in your study of resilience and depressive symptoms in mid-life women. I understand that this study is in partial fulfillment of the requirements for a Masters of Science in Nursing through Grand Valley State University in Grand Rapids, Michigan. Use of the PRPS is restricted to the study described above; use in another study requires another request and permission.

The PRPS has a copyright (2000) and changes to the scale are prohibited. This prohibition includes translation of any part of the PRPS unless specifically discussed with me. In addition neither the total PRPS, nor any PRPS item may be included in any published material without express permission from the author. The PRPS may be duplicated by mechanical copying only; it may not be retyped.

Validity and reliability of the PRPS is ongoing, therefore, submission of the following is required within six months of completing your research:

- Purpose of the study
- Instruments used in the study (titles and authors only)
- Description of the sample, including size and characteristics (i.e. gender, age, health status, where sample was obtained), and type (random, convenience, etc.)
- Descriptive and inferential statistical findings of your study (including graphs or tables if available)
- Recommendations related to your study

In addition I encourage you to share any other comments or suggestions you may have concerning the PRPS when you return the above information. If you have any questions about the PRPS while you are developing, or doing your research, please feel free to write or telephone me. My current address is College of Southern Maryland, 8730 Mitchell Rd, PO Box 910, La Plata MD 20646-0919, USA, and my phone number is 301-934-7506.

Good luck with your research and keep in touch.

Sincerely,

[redacted]

Laura V. Polk, DNSc, RN
Assistant Professor
College of Southern Maryland

La Plata Campus 8730 Mitchell Road, P.O. Box 910, La Plata MD 20646-0910
301-934-2251 • 301-870-3008 • 301-884-8131
www.csm.cc.md.us

APPENDIX G

Permission to Use Polk Resilience Patterns Scale in Thesis

Appendix G

Permission to Include the Polk Resilience Patterns Scale In Thesis

I give my permission for Keverne Lehman, RN, BSN to include a copy of my Polk Resilience Patterns Scale in her thesis on "Resilience and Depressive Symptoms in Mid-Life Women" in partial fulfillment of the requirements for a Masters of Science in Nursing through Grand Valley State University in Grand Rapids, Michigan

[redacted]

Laura V. Polk, DNSc, RN

July 11, 2005

Date

APPENDIX H

Cover Letter

Appendix H

Dear Fellow Health Staff Member,

Women experience depression almost twice as often as men. This holds true across ethnic groups, across the country, and throughout the world. The reasons for depression are many, and can be complicated. Is there some way to prepare women for success in dealing with the stresses of life? Why is it that some people seem to be able to handle a lot in their life, and still do fairly well, while others struggle?

You have been selected as one of a small number of women between 35-55 years old to provide information on personal strengths, life stress, and depression. Your participation is strictly by choice and will in no way affect your job. However, to make the study useful, it is very important that the enclosed surveys are completed and returned in the stamped envelope. I believe it will take 20 minutes to complete the forms. By completing and submitting the surveys, you are giving me permission to use the data in my research study.

The information you provide will be private, so please do not put your name on the papers. The number at the top is simply used to keep your information together. I am the only person who will see the individual results. It is my hope that you will feel comfortable providing your honest thoughts and feelings. However, if you prefer not to answer a question, please feel free to leave it blank. You may also stop completing the forms at any time.

There is a postcard for you to send to me separately (not with the survey packet) which will let me know that you participated, in the event of future follow-up study. A check box on the card can be marked if you would like a description of the results from this study.

I do not expect that you will receive any direct benefit from completing these surveys. However, this study may help us understand how to help women in the future. It is also not expected that you will be hurt in any way by your participation, but it is possible that some questions may be uncomfortable for you. Should you desire a referral to a professional to help you, please feel free to contact the researcher for a list of available services.

I am completing this research for my Master's Thesis in Nursing at Grand Valley State University. The GVSU Research Chairperson is Paul Reitemeier (616) 331-3197 hrrc@gvsu.edu. The Spectrum Health Research and Human Rights Committee Representative is Linda Pool at (616) 391-1291.

Thank you for your time. For any questions, please contact me at (616) 774-7552.

Keverne Lehman, RN BSN
Grand Valley State University Masters Degree Candidate

APPENDIX I

Postcard Samples

Appendix I

Dear Keverne:
I completed the forms and have sent them back to you.
PLEASE PRINT
Name:_____
Address:_____
_____
_____

- ☐ I would like to receive your results.
- ☐ I would like to be involved in a future study on resilience.

(Date)

Last week a packet of surveys seeking your input on women's stress, strengths, and depression was mailed to you. If you have already completed and returned the packet to me, please accept my sincere thanks.
If not, please do so today! Because it has been sent to only a small sample of women, your information is very important. If by some chance you did not receive the packet, or it was misplaced, please call me right now at (616) 241-0436 and I will get another one in the mail to you today.

Sincerely,

Keverne Lehman RN, BSN

APPENDIX J

Human Research Review Committee Approval

Appendix J

Proposal No. 06-127-H Category: Expedited
Approval Date: February 7, 2006 Expiration Date: February 6, 2007
Title: *Resilience and Depressive Symptoms in Midlife Women*

Dear Keverne:

Grand Valley State University, Human Research Review Committee (HRRC), has completed its review of this proposal. The HRRC serves as the Institutional Review Board (IRB) for Grand Valley State University. The rights and welfare of the human subjects appear to be adequately protected and the methods used to obtain informed consent are appropriate. Your project has been **APPROVED.** Please include your proposal number in all future correspondence. The first principal investigator will be sent all correspondence from the University unless otherwise requested.

Renewals: The HRRC approval is valid until the expiration date listed above. Any project that continues beyond the expiration date must be renewed with the renewal form and a progress report. A maximum of 4 renewals are possible. If you need to continue a proposal beyond that time, you are required to submit a new application for a complete review.
Closed: If you do not anticipate the study to extend past the one year approval, a closed protocol form must be submitted. You can find this document at http://www.gvsu.edu/forms/research_dev/FORMS.
Revisions: The HRRC must review and approve any change in procedures involving human subjects, prior to the initiation of the change. To revise an approved protocol, send a written request along with both the original and revised protocols including the protocol consent form, to the Chair of HRRC. When requesting approval of revisions, both the project's HRRC number and title must be referenced.
Problems/Changes: The HRRC must be informed promptly if either of the following arises during the course of your project. 1) Problems (unexpected side effects, complaints, etc.) involving the human subjects. 2) Changes in the research environment or new information that indicates greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If I can be of further assistance, please contact me at 616-331-3417 or via e-mail: reitemep@gvsu.edu. You can also contact the Graduate Assistant in Faculty Research and Development Office at 616-331-3197.

Sincerely,

[redacted]

Paul J. Reitemeier, Ph.D.
Human Research Review Committee Chair
301C DeVos Center
Grand Rapids, MI 49504

APPENDIX K

Permission to Conduct Study at Facilities

Appendix K

Spectrum Health

100 Michigan Street NE Grand Rapids MI 49503-2560

February 7, 2006

Keverne Lehman RN
Spectrum Health Hospitals
100 Michigan NE, MC 496
Grand Rapids, MI 49503

Dear Ms. Lehman:

By means of the expedited review process your project "Resilience and Depressive Symptoms in Mid-Life Women", protocol dated 01/27/06, was given approval by the Spectrum Health Research and Human Rights Committee.

Your approval period is from 02/07/2006 to 02/01/2007. The Spectrum Health number assigned to your study is 2006-043. Please use this number as a reference in all correspondence to the research office regarding your study.

Any changes made to the study, including informed consent changes, following this approval require submission in writing to the IRB and approval by the committee. Changes may not be implemented until approved by the IRB. Approval of your research means you are responsible for complying with all policies and procedures of the FDA, OHRP, HIPAA, Spectrum Health Hospitals, and the Spectrum Health Research & Human Rights Committee.

The FDA and this committee require submission of a written progress report to the committee by 01/01/2007. Your study cannot continue after 02/01/2007 until re-approved by the Spectrum Health Research and Human Rights Committee. You will need to apply for re-approval 4-6 weeks prior to that date if your study continues to be ongoing and/or patients continue to be followed, even if the study has closed to patient accrual. You must complete a study closeout form if your study has been completed, terminated, or if you are not renewing the study.

If you have any questions about the terms of this approval please phone myself or Tiffany VanTilburg at 616-391-1299.

Sincerely,

[redacted]

Jeffrey Jones MD
Chairman, Spectrum Health Research and Human Rights Committee

JSJ/vgb
c: file

Grand Valley State University
Kirkhof College of Nursing
Grand Rapids, Michigan 49503

Permission is granted for Keverne Lehman, Master of Science in Nursing candidate, to conduct the research study, "Resilience and Depressive Symptoms in Midlife Women" At Zeeland Community Hospital, Zeeland, Michigan. Study design involves mailed surveys to approximately 20-30 staff. All costs are the responsibility of the study coordinator. It is agreed that study results will be shared with the participating facility.

Date: 11-16-05 Signature: Rick Crelly
Vice President, Employee Services
Name Printed: Rick CRELLY

Date: 11/16/05 Signature: [redacted]
Vice President, Nursing Services & Quality Systems
Name Printed: Jane Crerar

Institution/Agency: Zeeland Community Hospital

Address: 100 S. Pine Street

City: Zeeland

State: MI Zip: 49464

Mercy General Health Partners Institutional Review Board

1500 E. Sherman Blvd.
Muskegon, MI 49444

November 29, 2005

Ms. Keverne Lehman
843 Nevada SE
Grand Rapids, MI 49507

Dear Ms Lehman:

This letter is to acknowledge the submission of your study entitled "Resilience and Depressive Symptoms in Midlife Women" and its accompanying survey to the Mercy General Health Partner's Institutional Review Board for an expedited review.

This letter is to notify of the approval of the previously mentioned study and the "Personal Profile", "Life Events Questionnaire (LEQ)", and "Polk Resilience Patterns Scale" surveys.

This approval is in effect for one year from the date of issuance. This study has been assigned IRB #MGHP2005007Ext.

Please feel free to contact either myself or the IRB Chair, Dr. B. Rolf Hissom, MD on whose behalf I grant this approval, if you have any questions regarding this approval.

Sincerely,

[redacted]

Lori Wightman, MSN
IRB Expedited Review Designee

good luck!

CC: Carol Opalek MSN CCRC, Research Coordinator

SAINT MARY'S
HEALTH CARE

200 Jefferson Avenue SE
Grand Rapids, Michigan 49503

P 616.752.6090
www.smhealthcare.org

December 19, 2005

Keverne Lehman, RN, BSN, BC
843 Nevada SE
Grand Rapids, MI 49507

RE: New Protocol – "Resilience and Depressive Symptoms in Mid-Life Women"

Dear Ms. Lehman:

We appreciated your presence at Saint Mary's Health Care IRB meeting on December 19, 2005 to review the aforementioned study. The one concern raised by the IRB membership was an evident lack of a Saint Mary's sponsor—a consistent requirement for investigators who employed or formally associated with Saint Mary's Health Care. Therefore, we have asked Ms. Sherri Veurink-Balicki to assume this sponsorship role.

With this change, the IRB has granted a one year approval for this study, beginning December 19, 2005 and ending December 19, 2006. This approval is based on an IRB exempt status basis. This means that you will need to notify Saint Mary's IRB in writing when you have completed the study—either at the end of the approval period or whenever the study is officially completed.

Additionally, it is our understanding that Saint Mary's Human Resources Department has given its approval for helping you to receive the needed randomized information relevant for this study.

We thank you in advance for cooperating with our processes.

Sincerely,

[redacted]

Sister Myra Bergman, IRB Chair
cc. Sherri-Veurink Balicki, study sponsor
Thomas Karel, Director Human Resources

LIST OF REFERENCES

LIST OF REFERENCES

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